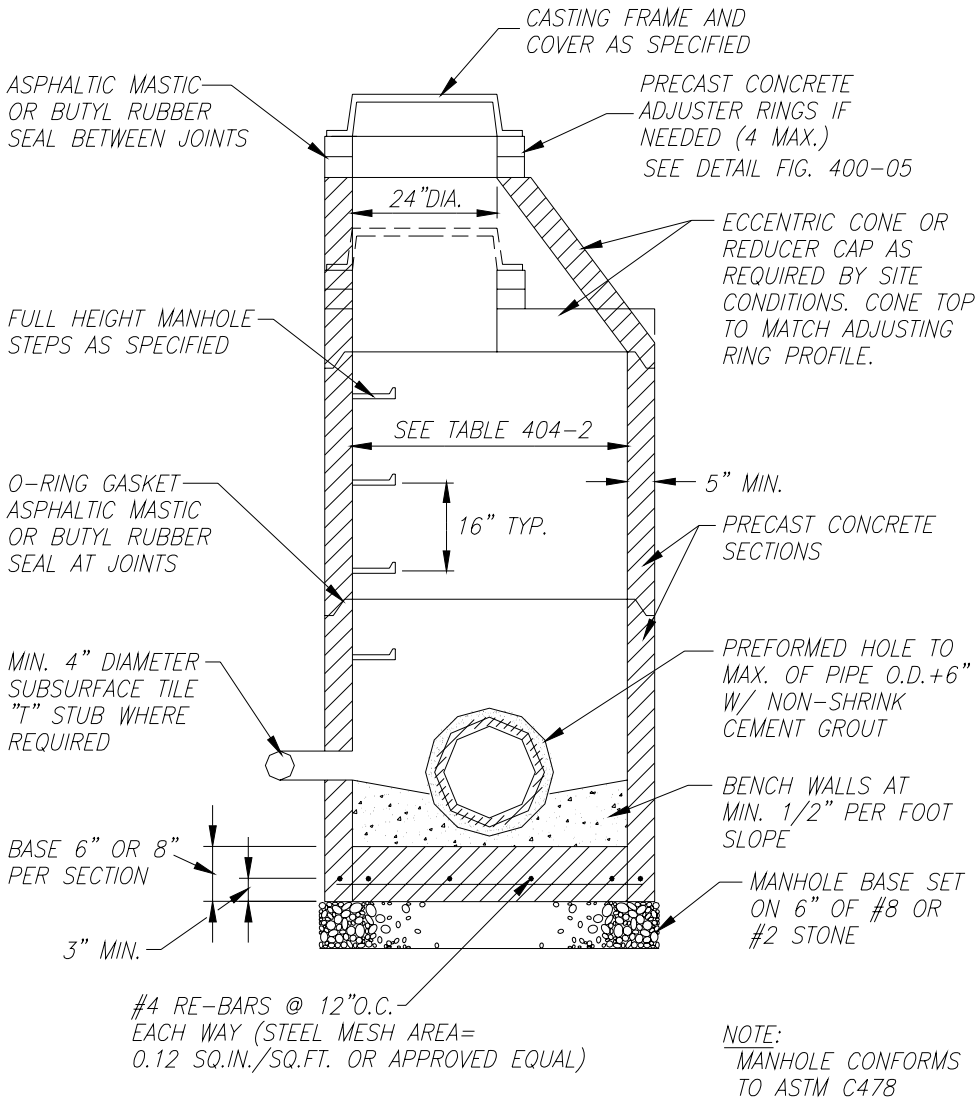
Appendix “E”

SELECTED STANDARD DETAILS AND SPECIFICATIONS FOR CONSTRUCTION UNDER THE CONTROL OF THE CITY OF MARTINSVILLE

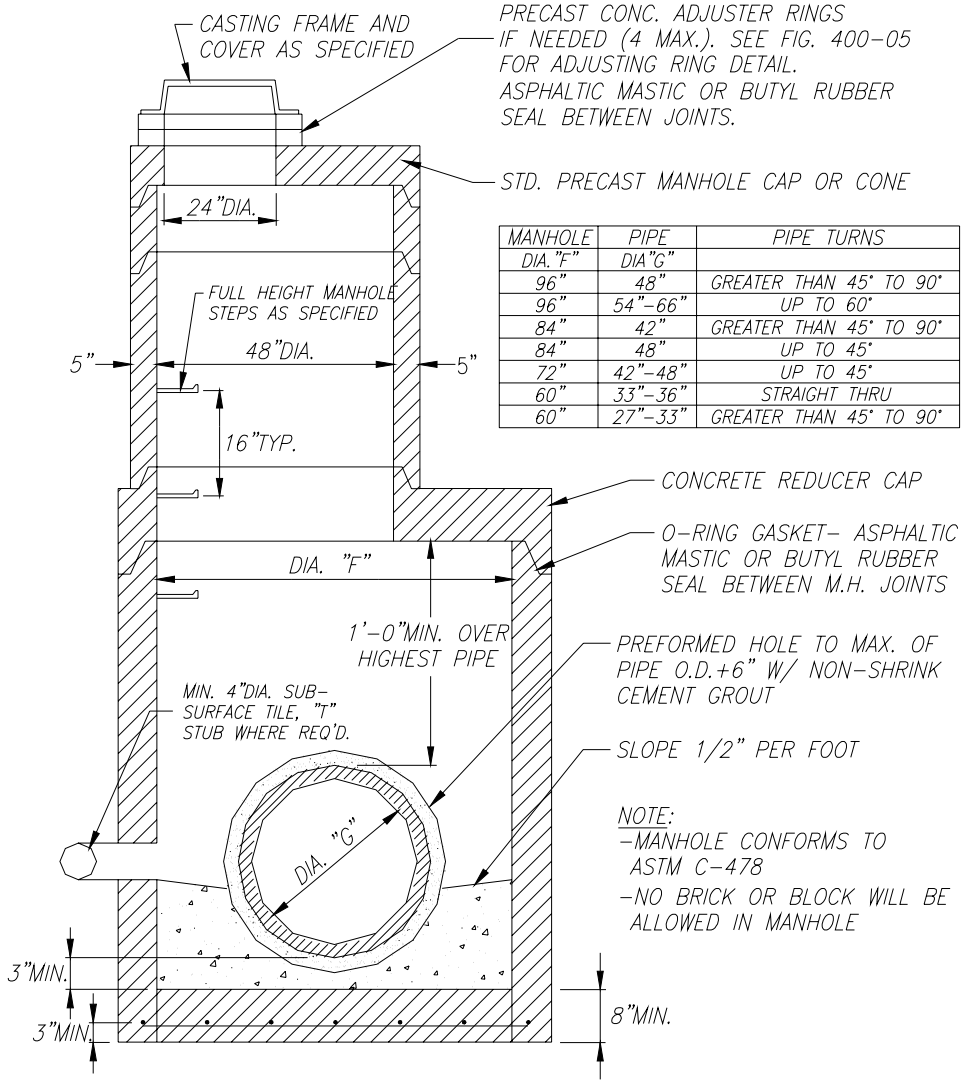
CONTACT THE OFFICE OF THE CITY ENGINEER (OCE) FOR ADDITIONAL DETAILS AND SPECIFICATIONS THAT APPLY TO INFRASTRUCTURE CONSTRUCTION IN THE CITY OF MARTINSVILLE



STANDARD MANHOLE FOR PIPE SIZES 12" thru 24"

NO SCALE

STANDARD STORM MANHOLE – PIPE TO 24"



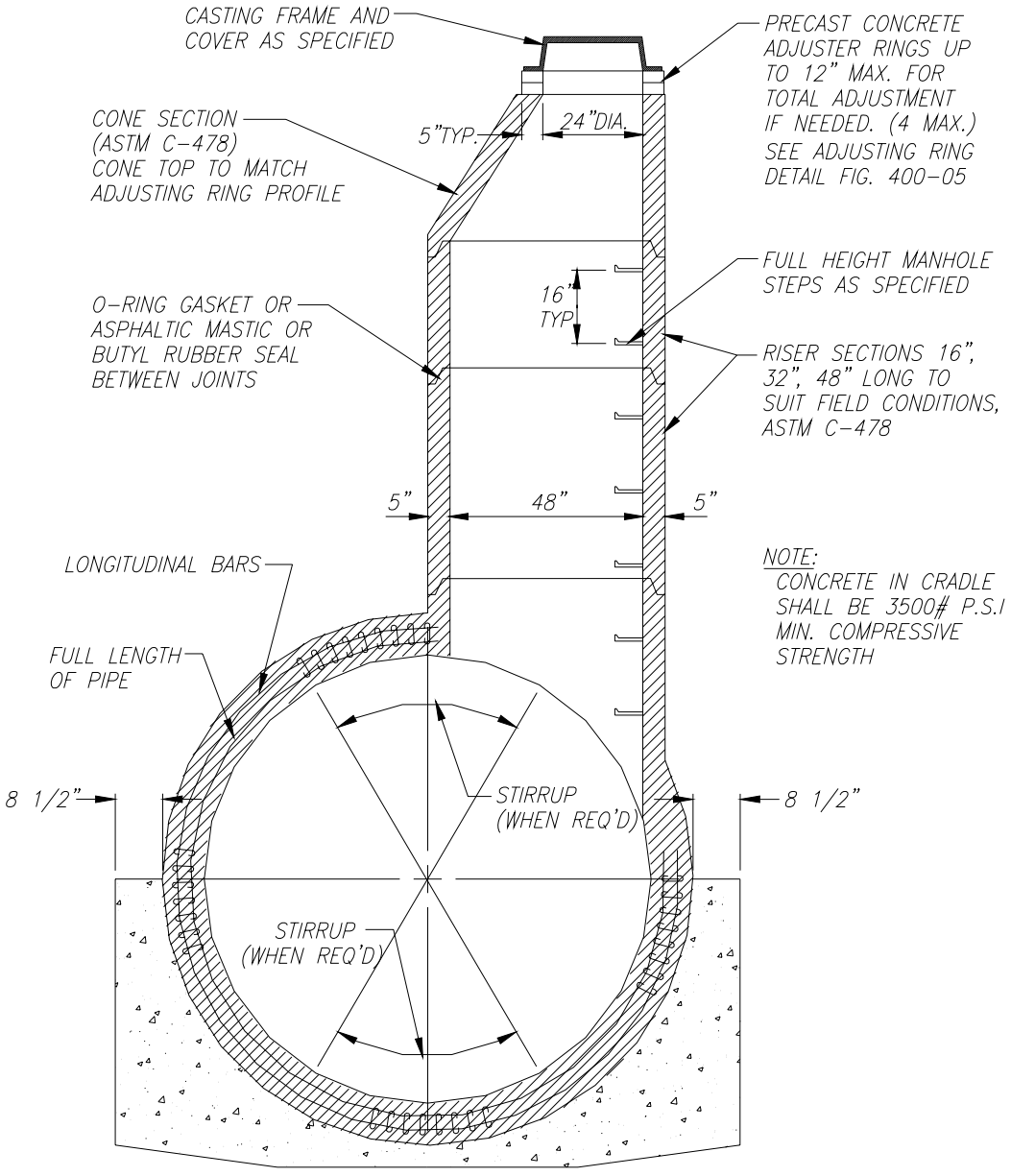
MANHOLE DIA."F"	PIPE DIA"G"	PIPE TURNS
96"	48"	GREATER THAN 45° TO 90°
96"	54"-66"	UP TO 60°
84"	42"	GREATER THAN 45° TO 90°
84"	48"	UP TO 45°
72"	42"-48"	UP TO 45°
60"	33"-36"	STRAIGHT THRU
60"	27"-33"	GREATER THAN 45° TO 90°

ONE COMPLETE UNIT OF PRECAST CONCRETE MANHOLE BASE & RISER OR APPROVED ALTERNATIVE. SEPARATE BASE & RISER SECTION IS OPTIONAL.

MANHOLE BASE, RISER & REDUCER CAP FOR PIPES 27" thru 48"

NO SCALE

STORM MANHOLE - PIPE TO 48"

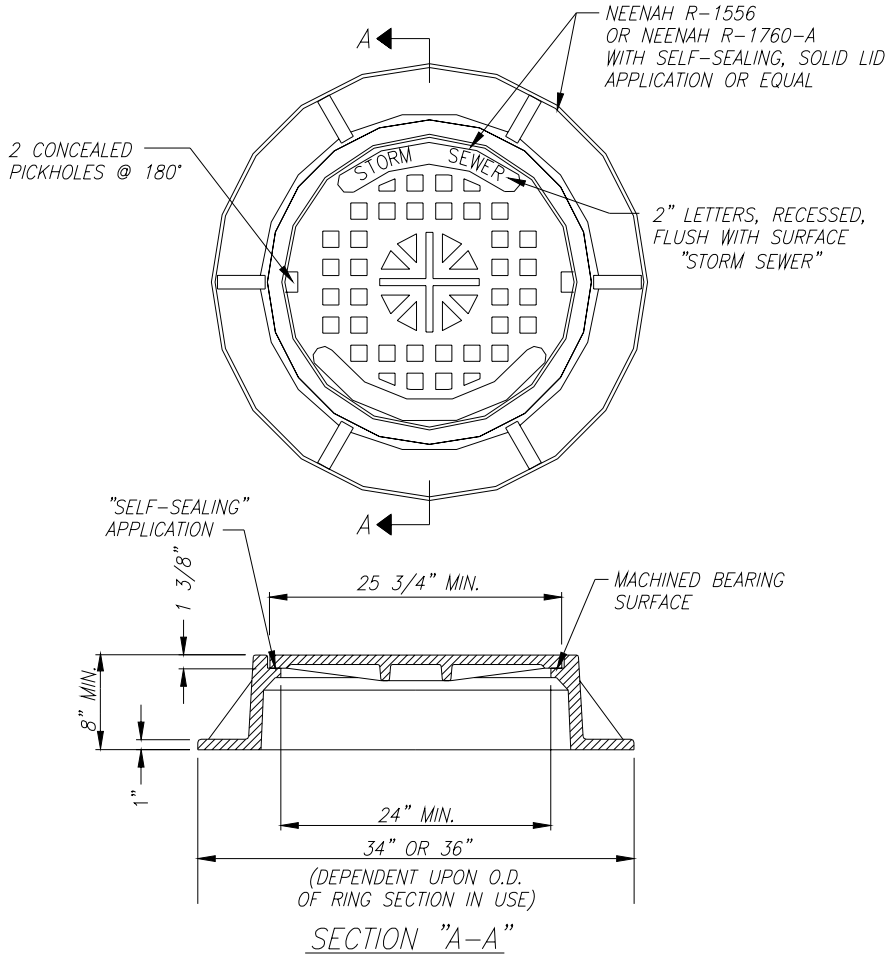


SPECIAL MANHOLE– 54" thru 144" SEWERS

MEETING CLASS III, IV OR V ASTM SPECS.

NO SCALE

STORM MANHOLE – PIPE TO 144"

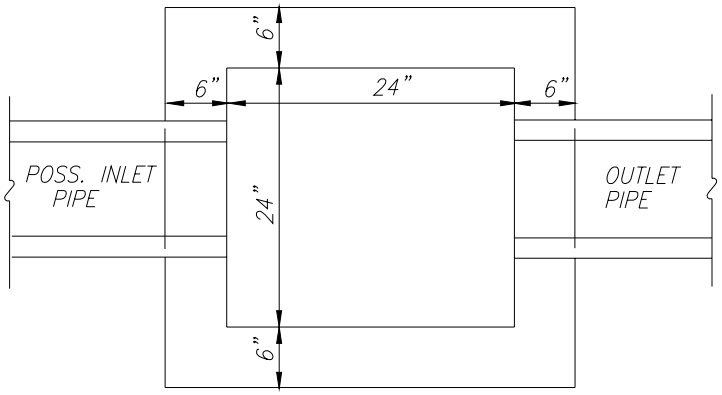


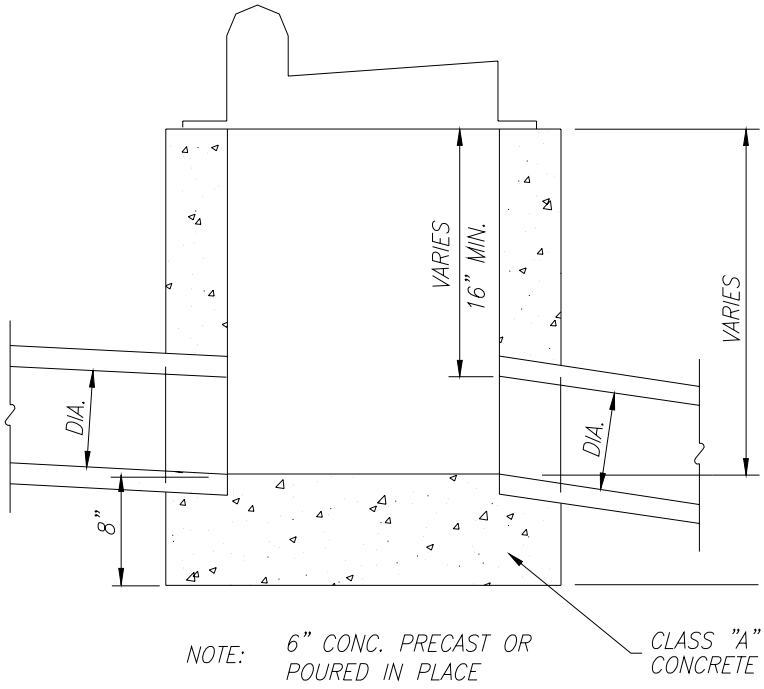
STORM SEWER MANHOLE FRAME & COVER

(FOR STANDARD MANHOLE)

NO SCALE

STANDARD STORM MANHOLE CASTING & LID



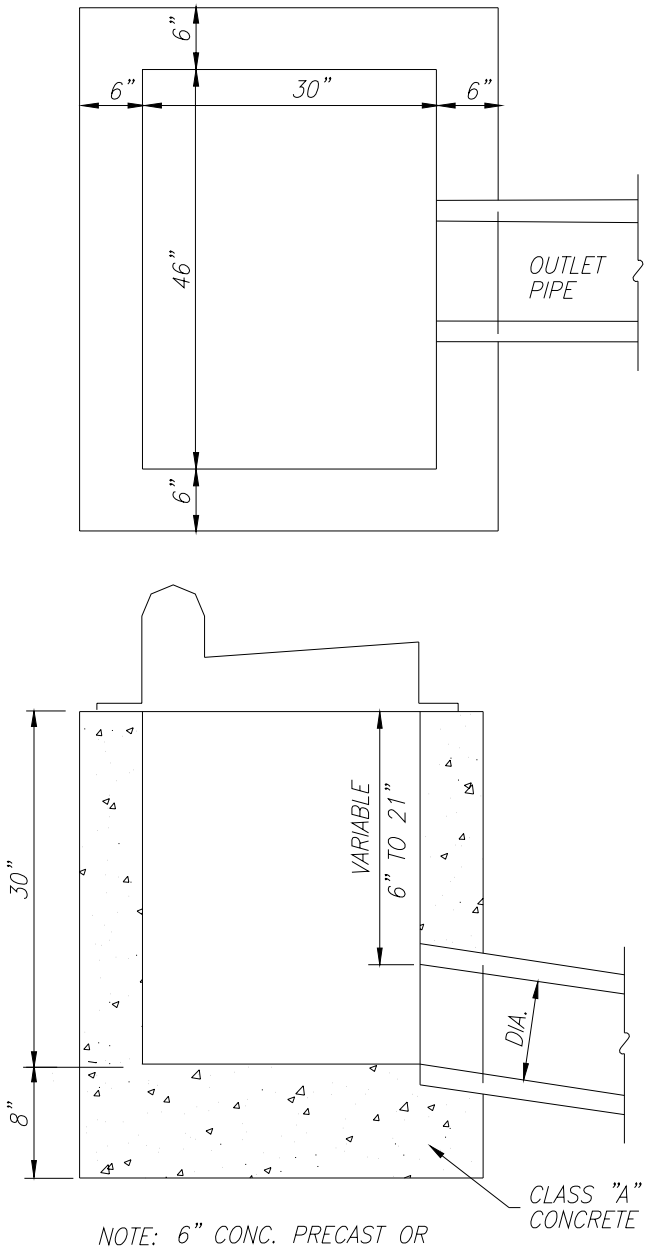


INLET TYPE "A" (MODIFIED)

(12" TO 18" PIPES)

NO SCALE

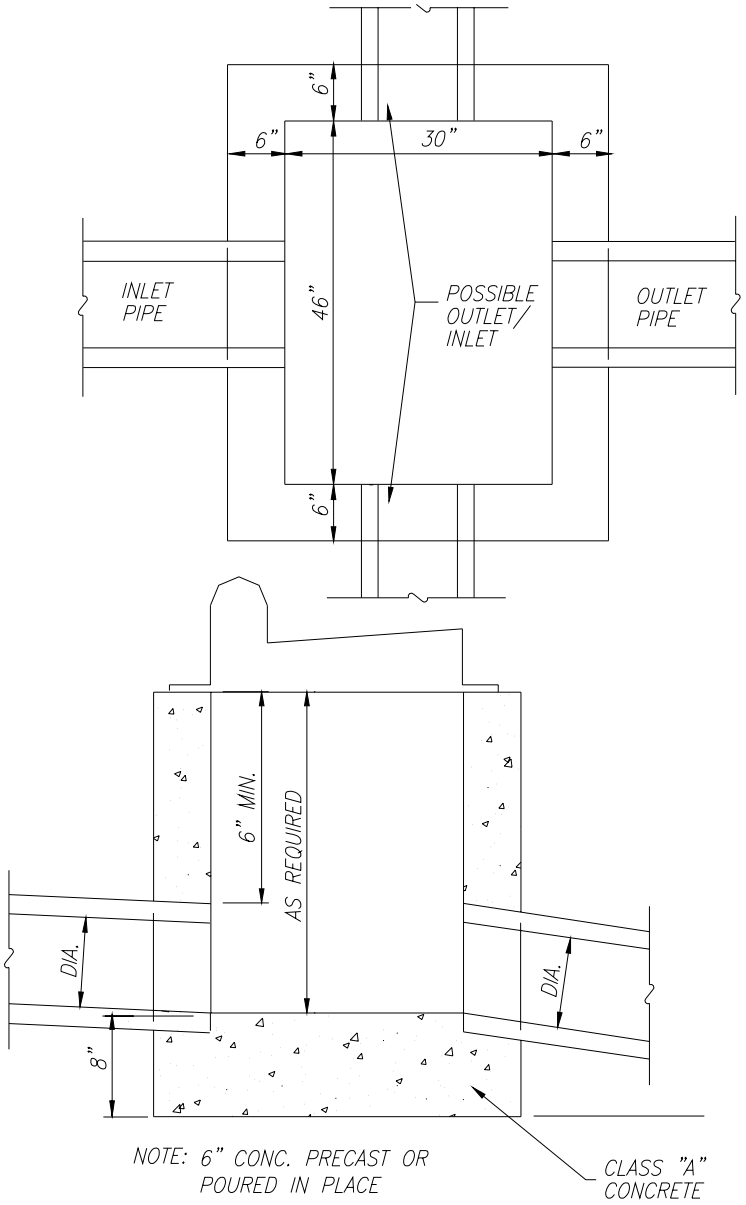
STORM INLET TYPE "A"



INLET TYPE "B"

NO SCALE

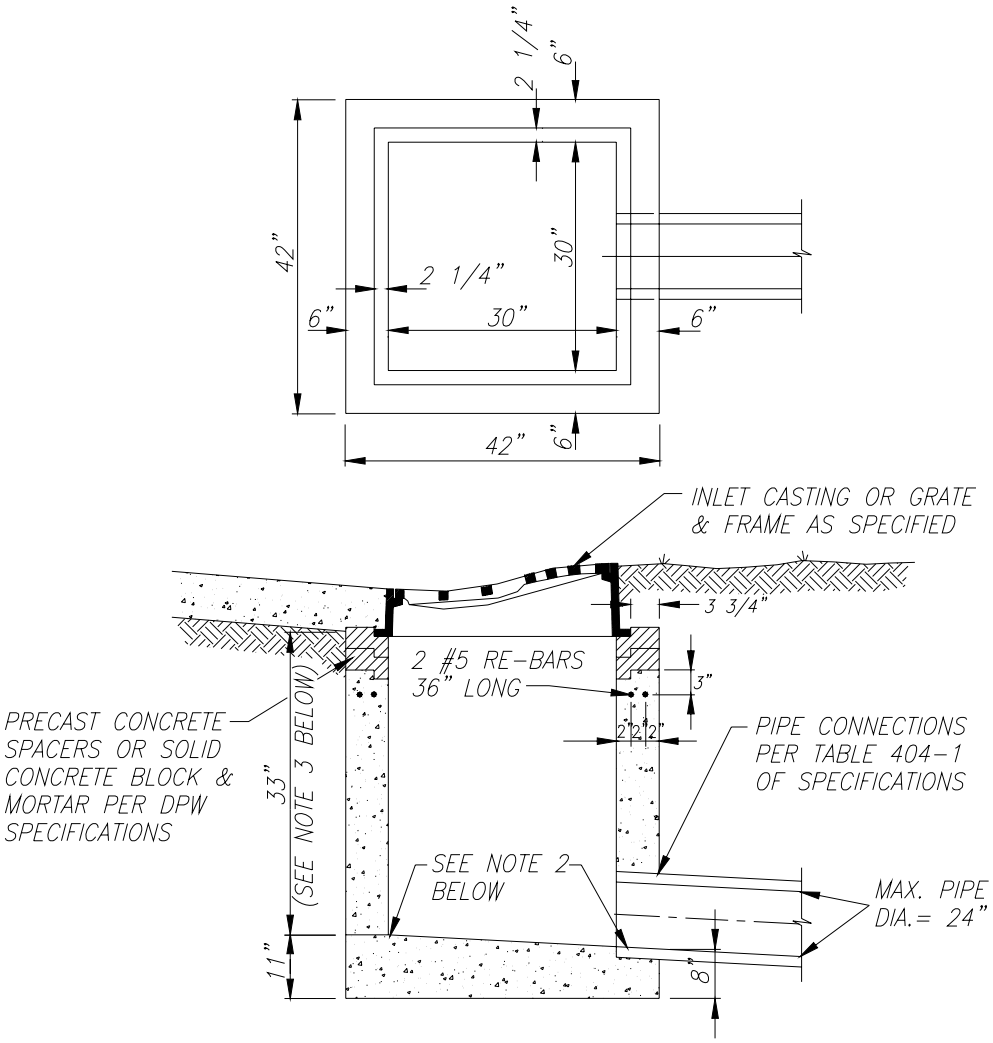
STORM INLET TYPE “B”



INLET TYPE "C"

NO SCALE

STORM INLET TYPE “C”



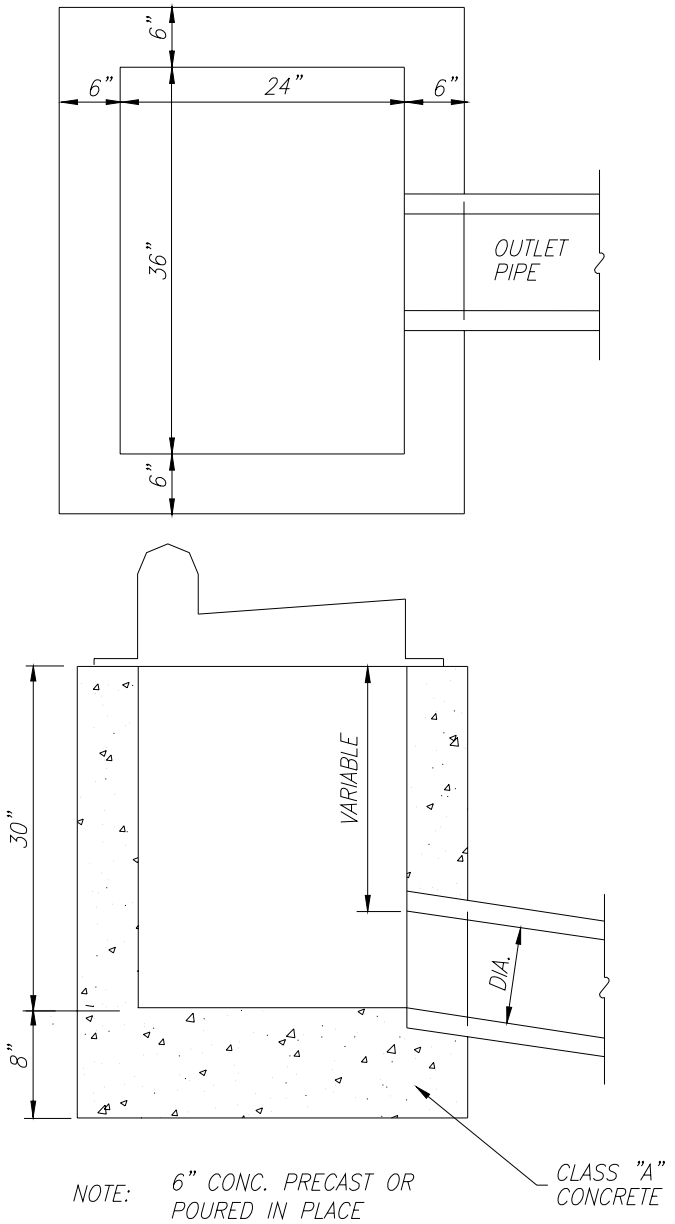
NOTES:

1. DIMENSIONS SHOWN IN CONFORMANCE WITH INDIANA DEPT.OF TRANSPORTATION (INDOT) SPECIFICATIONS.
2. POURED BENCHWALL AND PIPE CONNECTION VARY WITH BOX TYPE SPECIFIED.
3. HEIGHT DIMENSION MAY VARY AS REQUIRED BY SITE CONDITIONS.

PRECAST CONCRETE BOX INLET TYPE E WITH ROLL CURB CASTING AND FRAME

NO SCALE

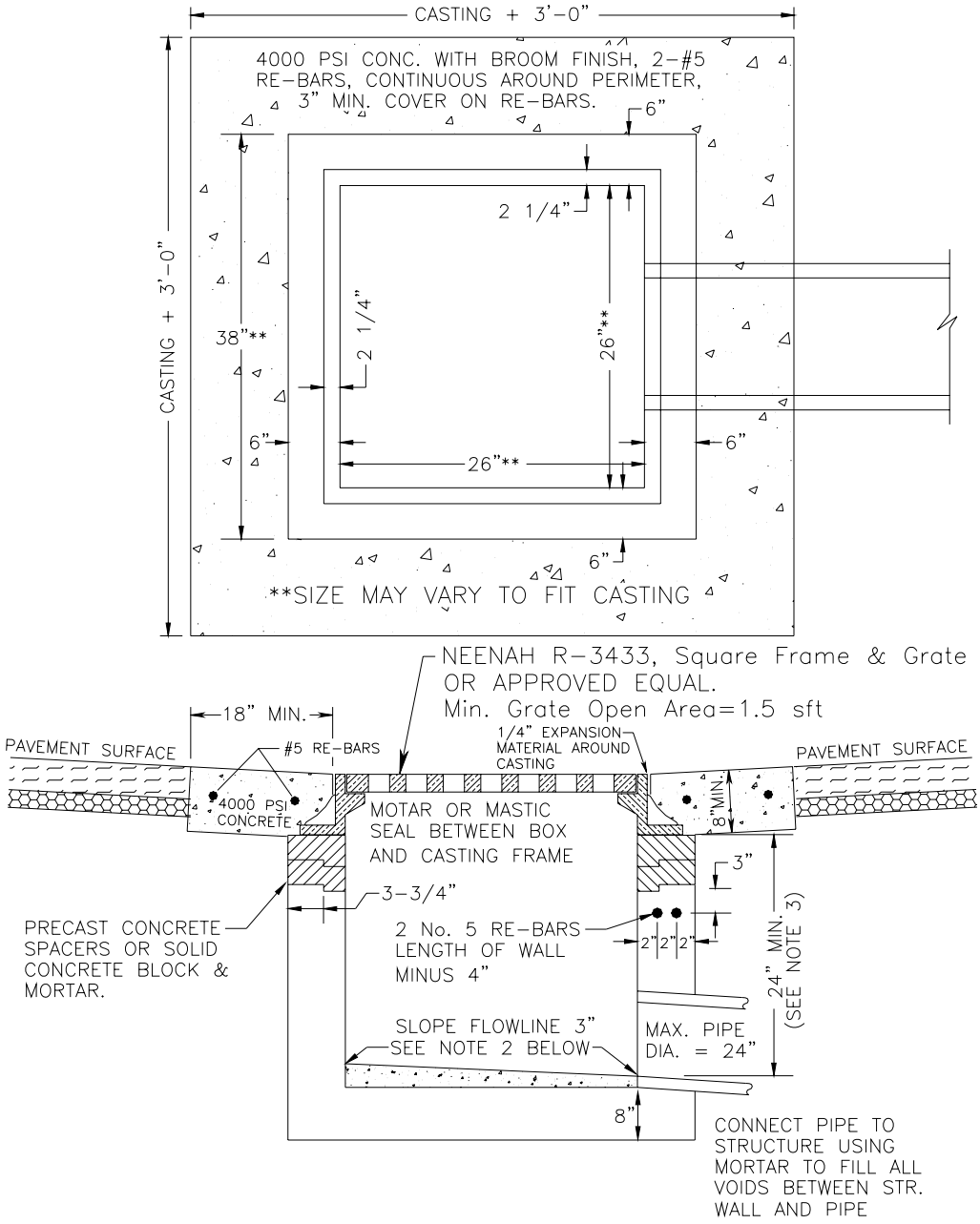
STORM INLET TYPE "E"



INLET TYPE "J"

NO SCALE

STROM INLET TYPE "J"

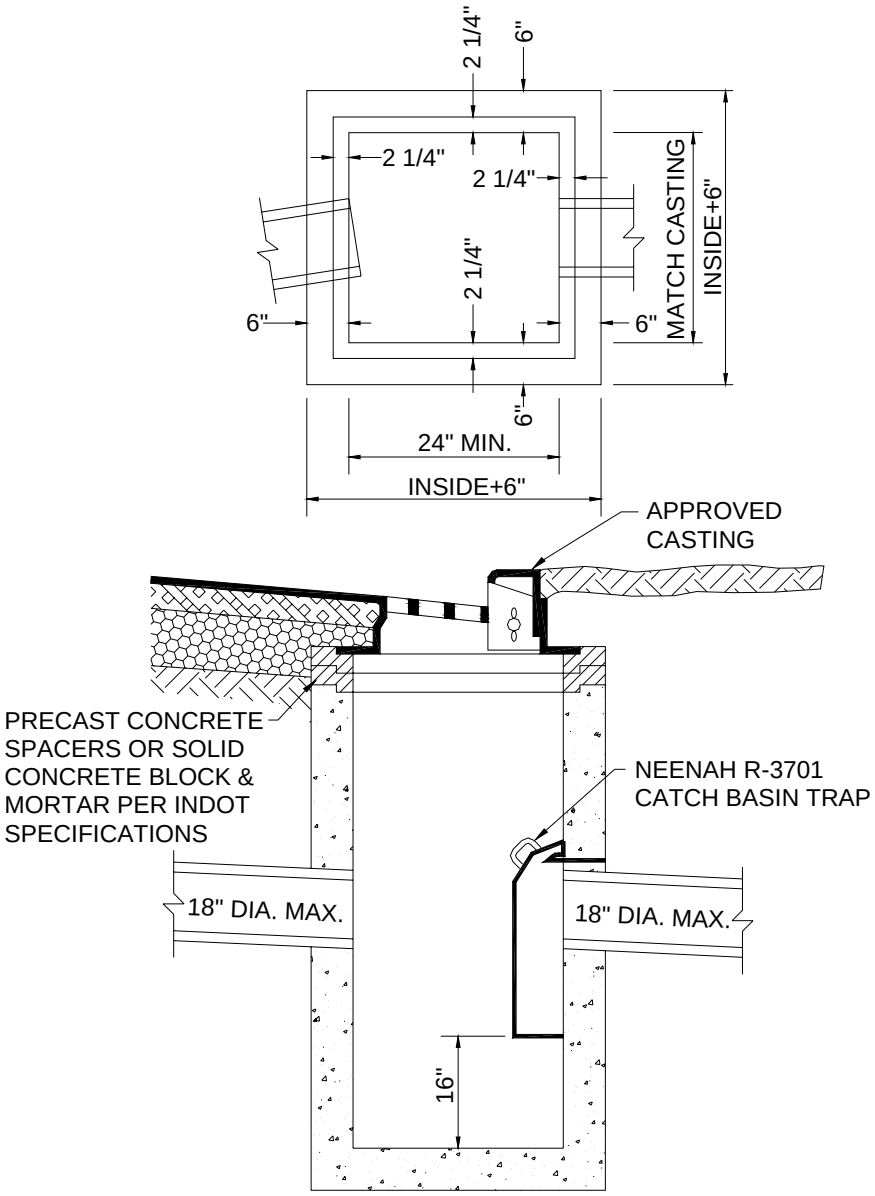


Precast Concrete Box for Pavement Inlet

NOTES:

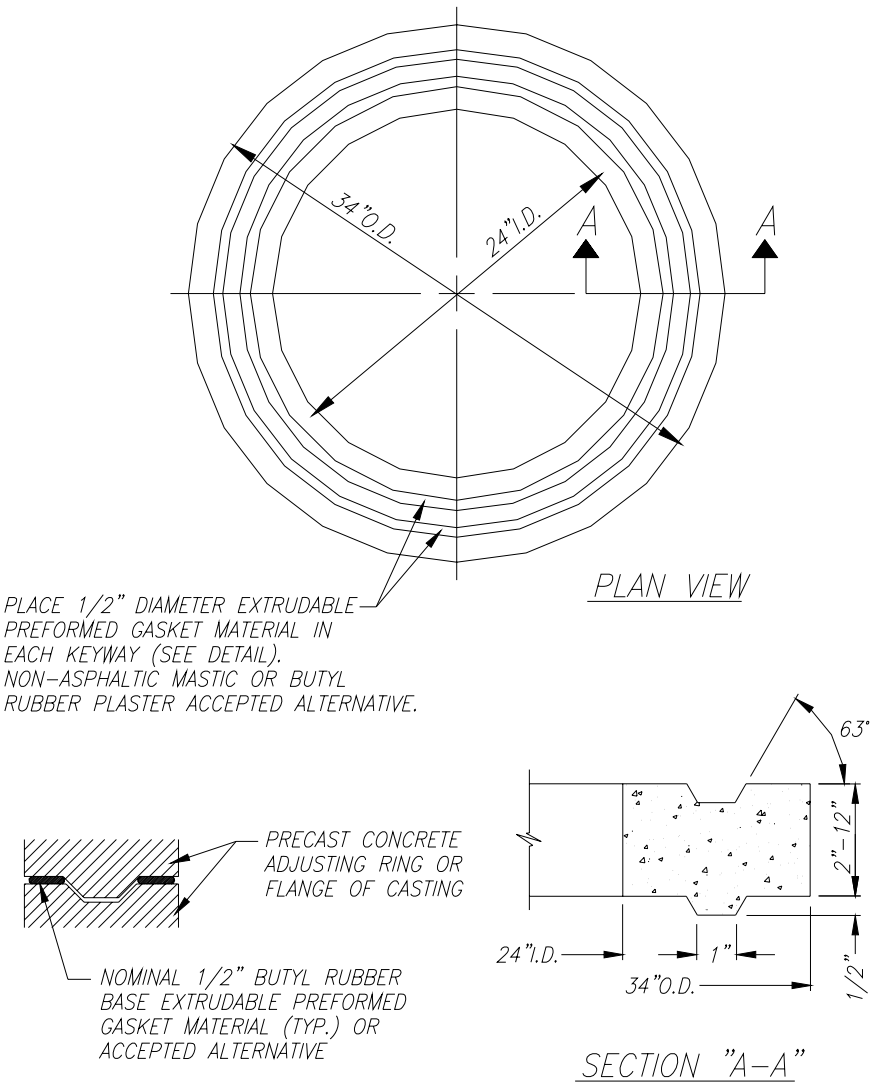
1. ALL MATERIAL AND CONSTRUCTION TO CONFORMANCE WITH INDIANA DEPT. OF TRANSPORTATION (INDOT) SPECIFICATIONS.
2. POURED BENCHWALL AND SLOPE OF BOTTOM VARY DEPENDENT ON NUMBER OF PIPE CONNECTIONS.
3. HEIGHT WILL VARY. CHECK STRUCTURE DATA.

STROM INLET TYPE "PL"



PRECAST CONCRETE CATCH BASIN

STROM WATER QUALITY CATCH BASIN



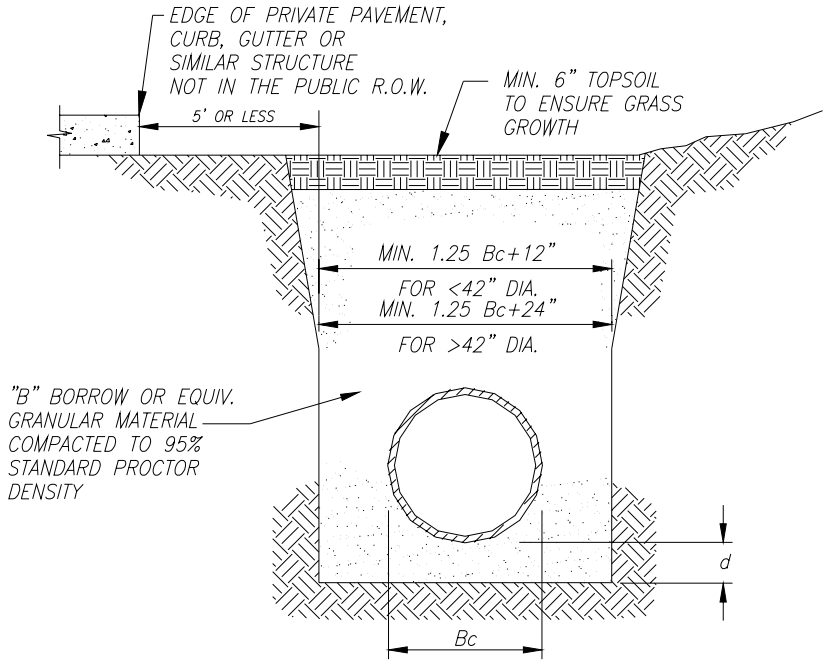
PRECAST CONCRETE ADJUSTING RING DETAIL

NO SCALE

(NOT MORE THAN 12-INCHES, IN TWO RINGS, ALLOWED)

MANHOLE ADJUSTING RING

STANDARD PAVEMENT REPAIR – PIPE TRENCH



WITHIN 5' OF EDGE OF PRIVATE PAVEMENT

DEPTH OF BEDDING MATERIAL BELOW PIPE

D	(d) MIN.
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

NOTE:
ALL BEDDING & INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS

MIN. 9" CLEARANCE EACH SIDE OF PIPE FOR 42" DIA. AND LESS

MIN. 12" CLEARANCE EACH SIDE OF PIPE FOR LARGER THAN 42" DIA.

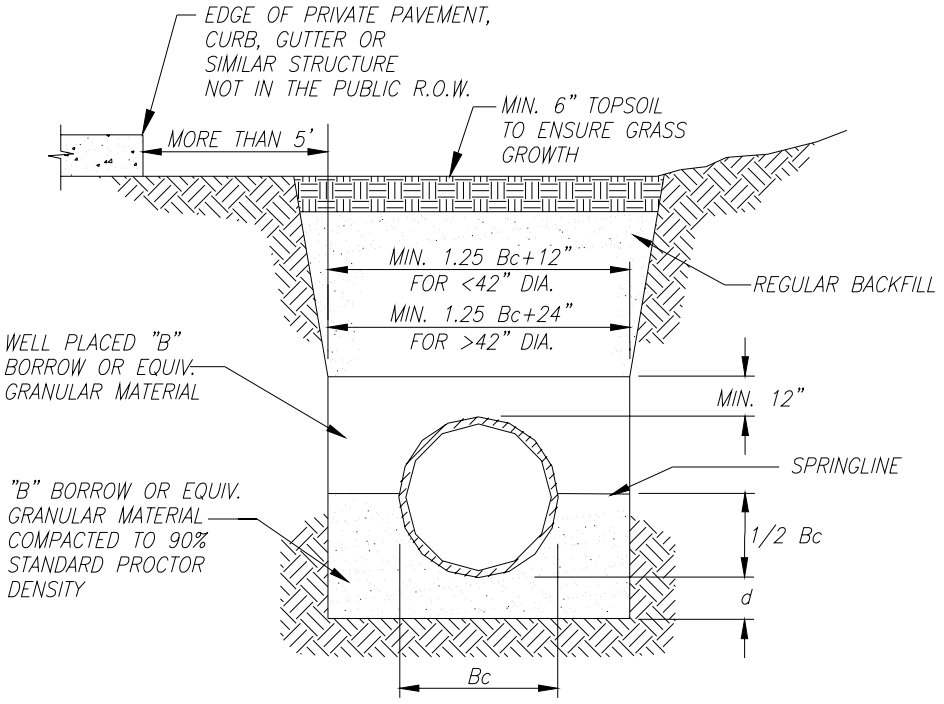
LEGEND

Bc = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

CORRUGATED METAL PIPE (CMP) TRENCH DETAIL

WITHIN 5' OF EDGE OF PRIVATE PAVEMENT
PROHIBITED WITHIN PUBLIC R.O.W.

CMP PIPE TRENCH DETAIL
WITHIN 5-FT OF PAVEMENT OR SIDEWALK



GREATER THAN 5' FROM EDGE OF PRIVATE PAVEMENT

DEPTH OF BEDDING MATERIAL BELOW PIPE

D	(d) MIN.
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

NOTE:
ALL BEDDING & INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS

MIN. 9" CLEARANCE EACH SIDE OF PIPE FOR 42" DIA. AND LESS

MIN. 12" CLEARANCE EACH SIDE OF PIPE FOR LARGER THAN 42" DIA.

LEGEND

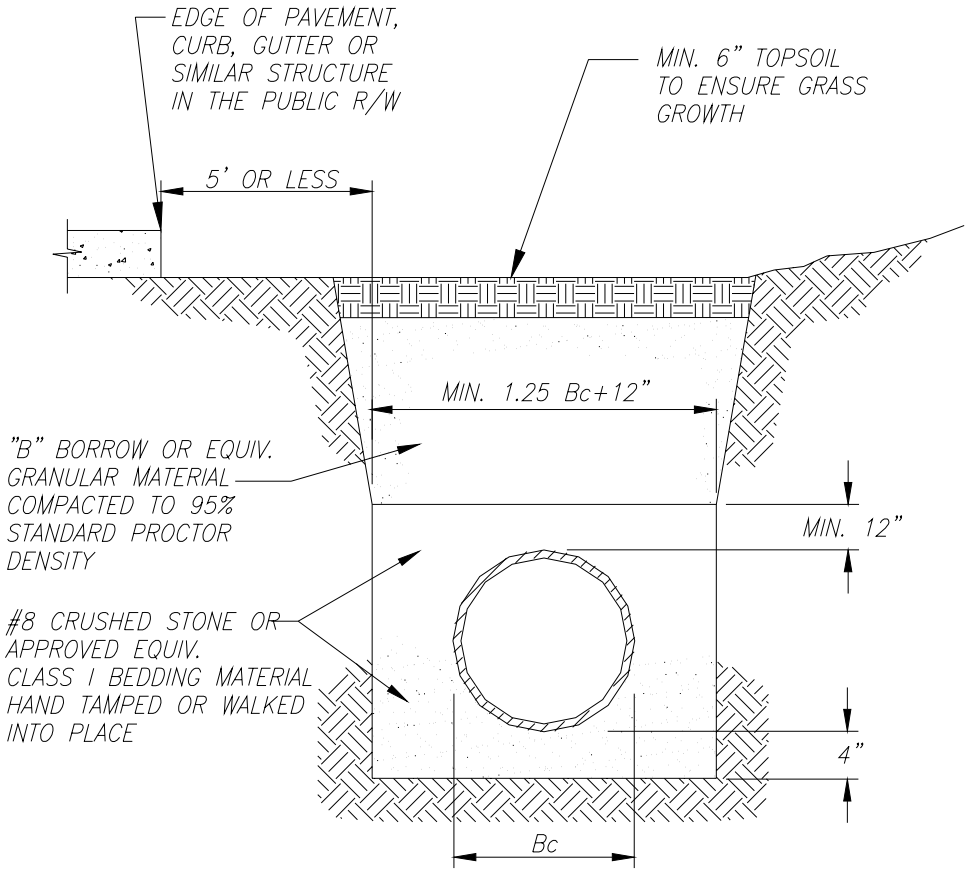
Bc = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

CORRUGATED METAL PIPE (CMP) TRENCH DETAIL

GREATER THAN 5' FROM EDGE OF PRIVATE PAVEMENT
PROHIBITED IN PUBLIC R.O.W.

NO SCALE

CMP PIPE TRENCH DETAIL
GREATER THAN 5-FT FROM PAVEMENT OR SIDEWALK



WITHIN 5" OF EDGE OF PAVEMENT

NOTE:
ALL BEDDING & INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS

A MINIMUM 9" CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE

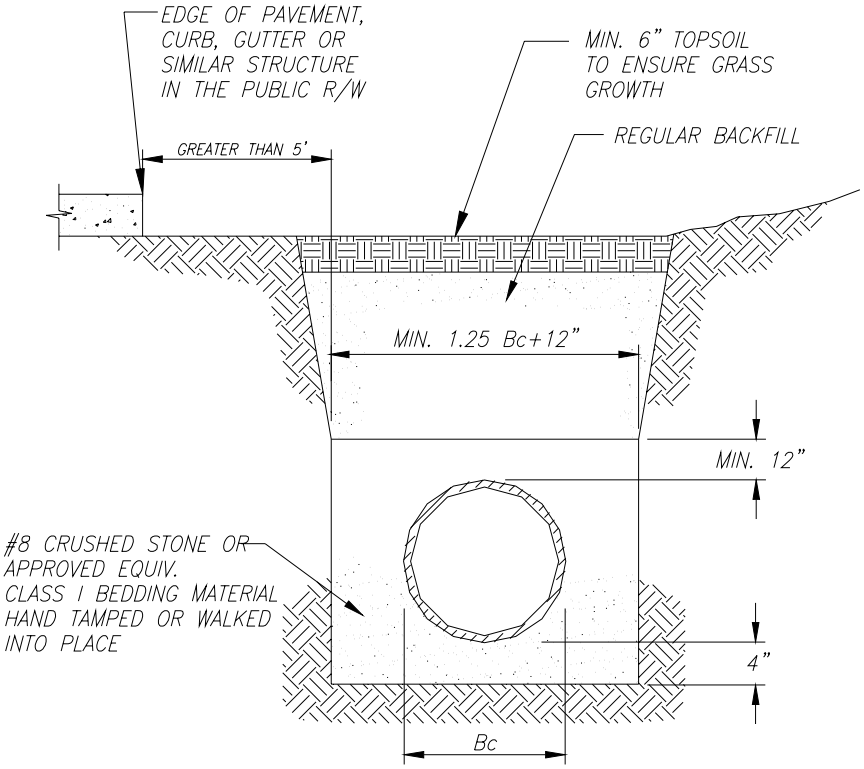
LEGEND

Bc = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

PLASTIC PIPE (PVC & HDPE) TRENCH DETAIL

WITHIN 5' OF EDGE OF PAVEMENT
NO SCALE

PVC & HDPE TRENCH DETAIL
WITHIN 5-FT OF PAVEMENT OR SIDEWALK



WITHIN 5' OF EDGE OF PAVEMENT

NOTE:
ALL BEDDING & INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS

A MINIMUM 9" CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE

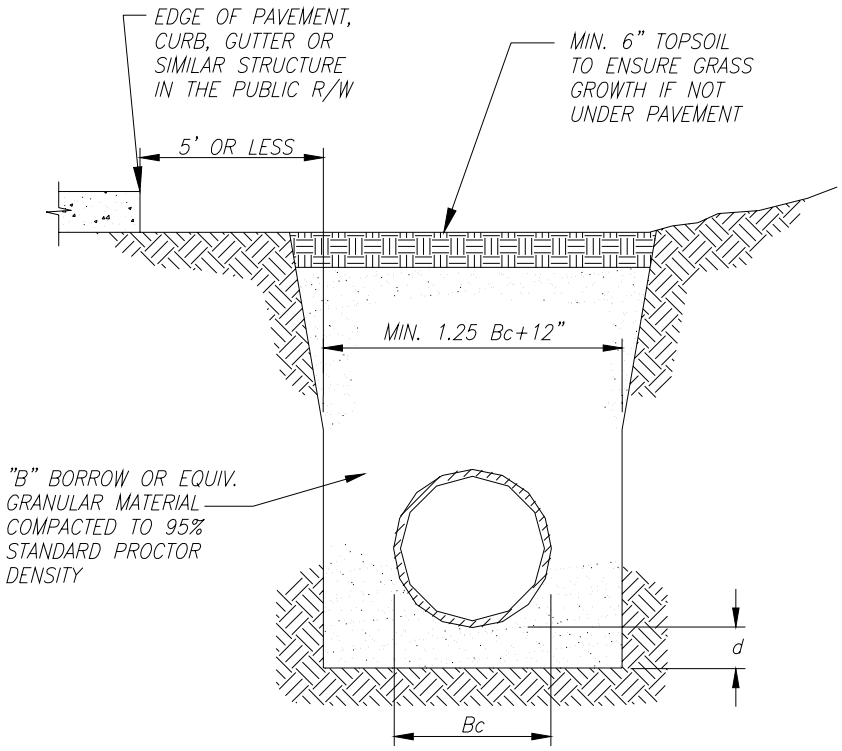
LEGEND

Bc = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

PLASTIC PIPE (PVC & HDPE) TRENCH DETAIL

GREATER THAN 5' FROM EDGE OF PAVEMENT
NO SCALE

PVC & HDPE TRENCH DETAIL
GREATER THAN 5-FT FROM PAVEMENT OR SIDEWALK



WITHIN 5' OF EDGE OF PAVEMENT

DEPTH OF BEDDING MATERIAL BELOW PIPE

	(d) MIN.
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

NOTE:
ALL BEDDING & INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS

MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE

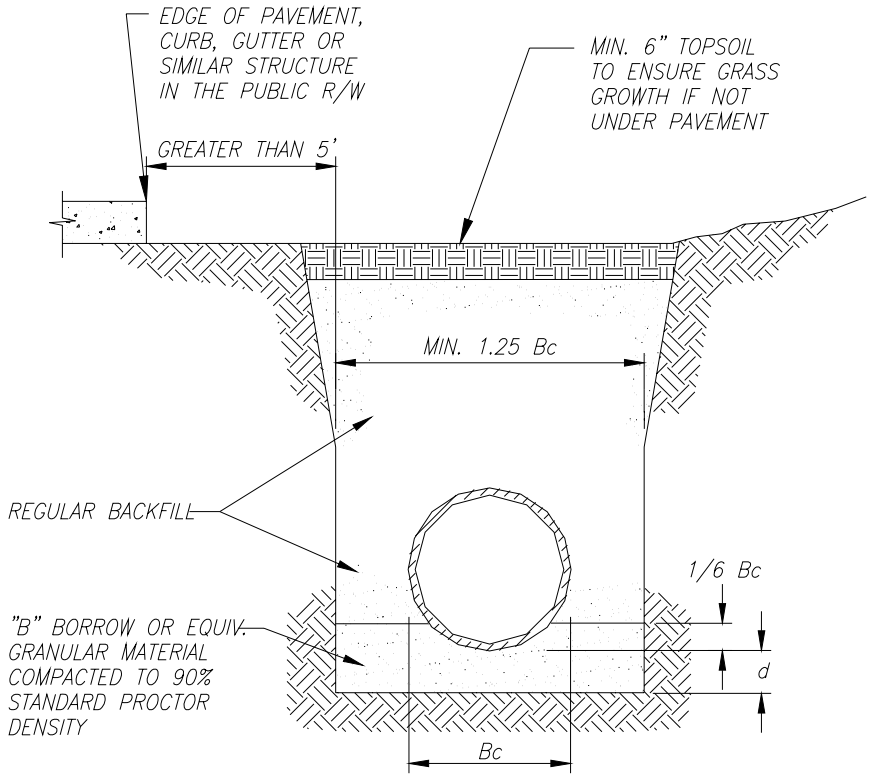
LEGEND

Bc = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

REINFORCED CONCRETE PIPE (RCP) TRENCH DETAIL

WITHIN 5' OF EDGE OF PAVEMENT
NO SCALE

RCP TRENCH DETAIL
WITHIN 5-FT OF PAVEMENT OR SIDEWALK



GREATER THAN 5' FROM EDGE OF PAVEMENT

DEPTH OF BEDDING MATERIAL BELOW PIPE

D	(d) MIN.
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

NOTE:
ALL BEDDING & INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS

MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE

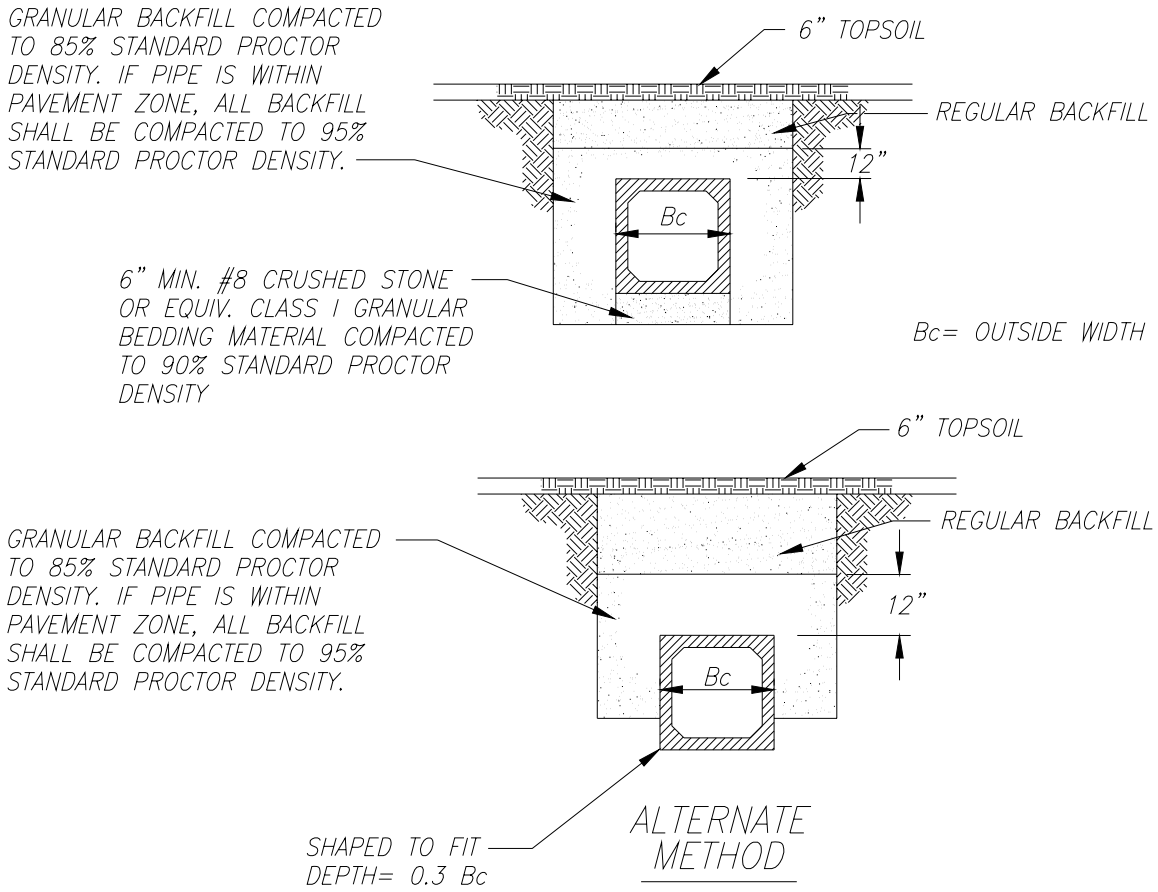
LEGEND

Bc = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

REINFORCED CONCRETE PIPE (RCP) TRENCH DETAIL

GREATER THAN 5' FROM EDGE OF PAVEMENT
NO SCALE

RCP PIPE TRENCH DETAIL
GREATER THAN 5-FT FROM PAVEMENT OR SIDEWALK



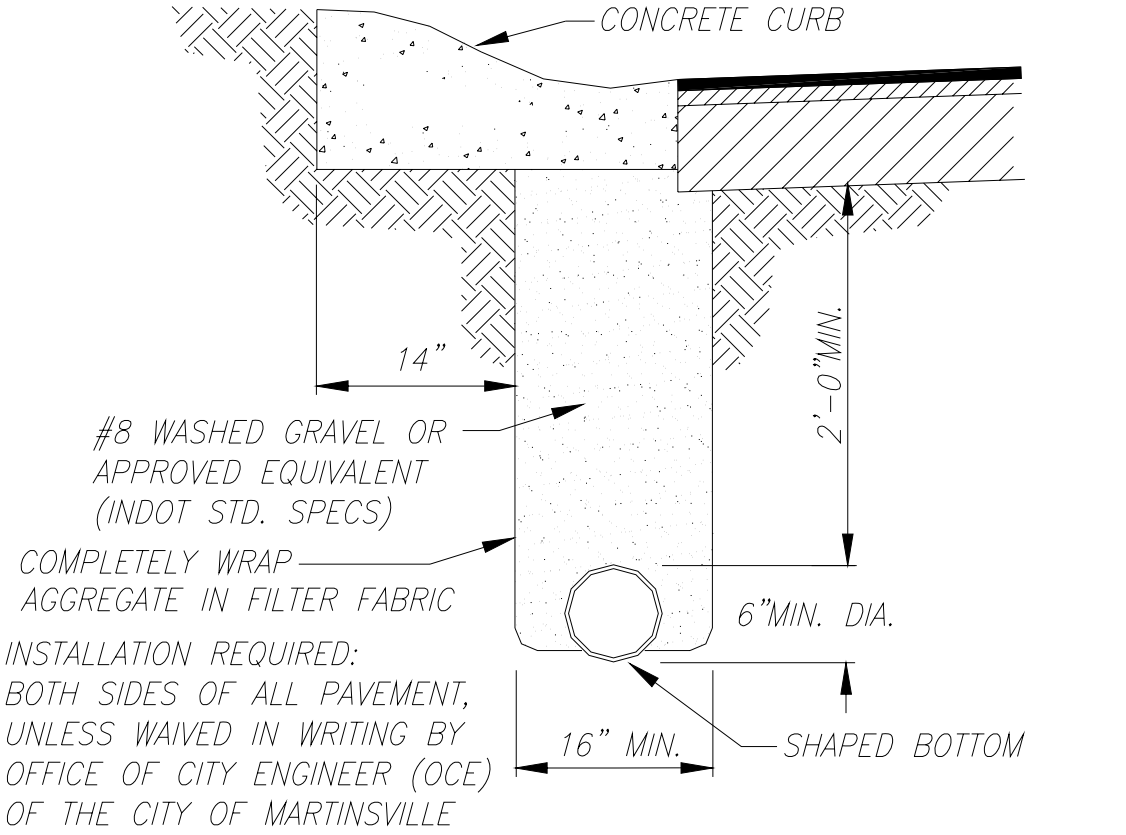
NOTE: REINFORCED CONCRETE BOX SECTIONS IN CONFORMANCE WITH ASTM C789 AND C850.
SOIL BEARING CAPACITY TO BE TESTED FOR CONFORMANCE WITH MINIMUM MANUFACTURER'S RECOMMENDATIONS.

REINFORCED CONCRETE BOX SECTION BEDDING DETAIL

NO SCALE

IF BOX IS PLACED WITHIN 5-FT OF PAVEMENT OR SIDEWALK ALL BACKFILL SHALL BE 'B' BORROW CLASS MATERIAL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.

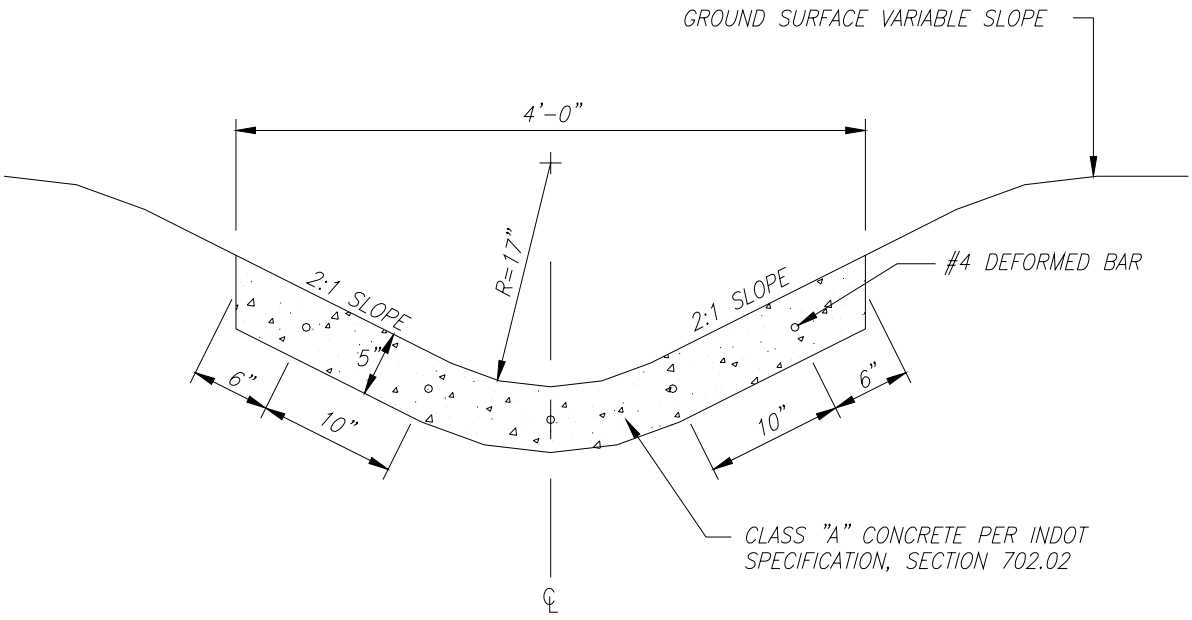
RC BOX TRENCH DETAIL



CURB UNDERDRAIN DETAIL

NO SCALE

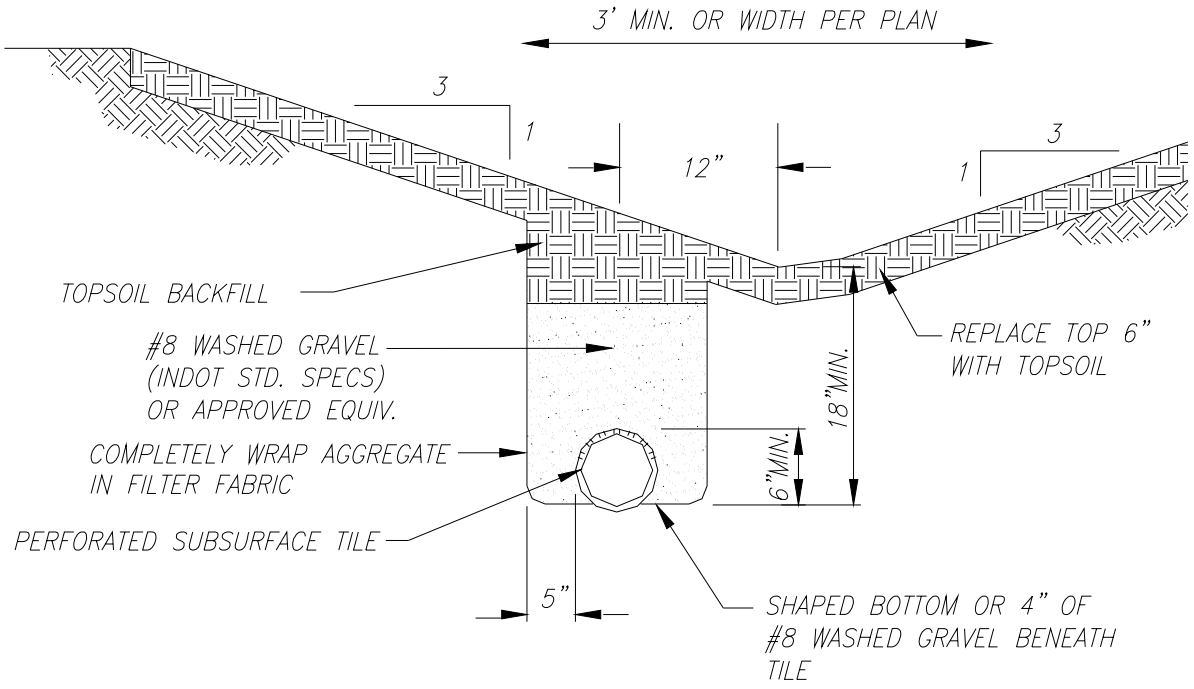
CURB UNDERDRAIN DETAIL



PAVED SIDE DITCH TYPE "B"

NOT TO SCALE

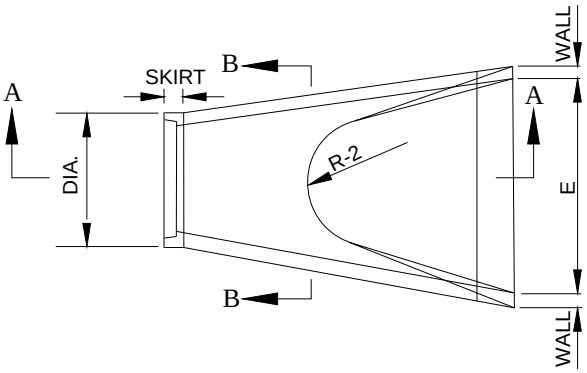
CONCRETE PAVED DITCH TYPE "B"

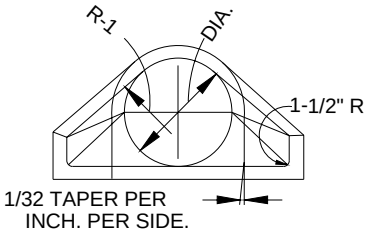


SWALE UNDERDRAIN DETAIL

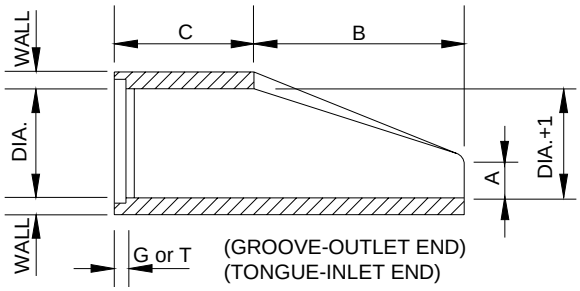
NO SCALE

SWALE UNDERDRAIN DETAIL

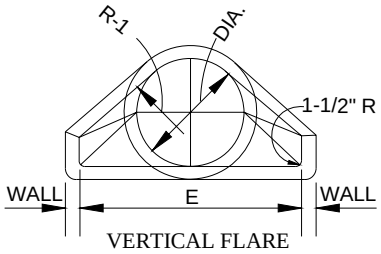




HORIZONTAL FLARE



SECTION A-A



VERTICAL FLARE

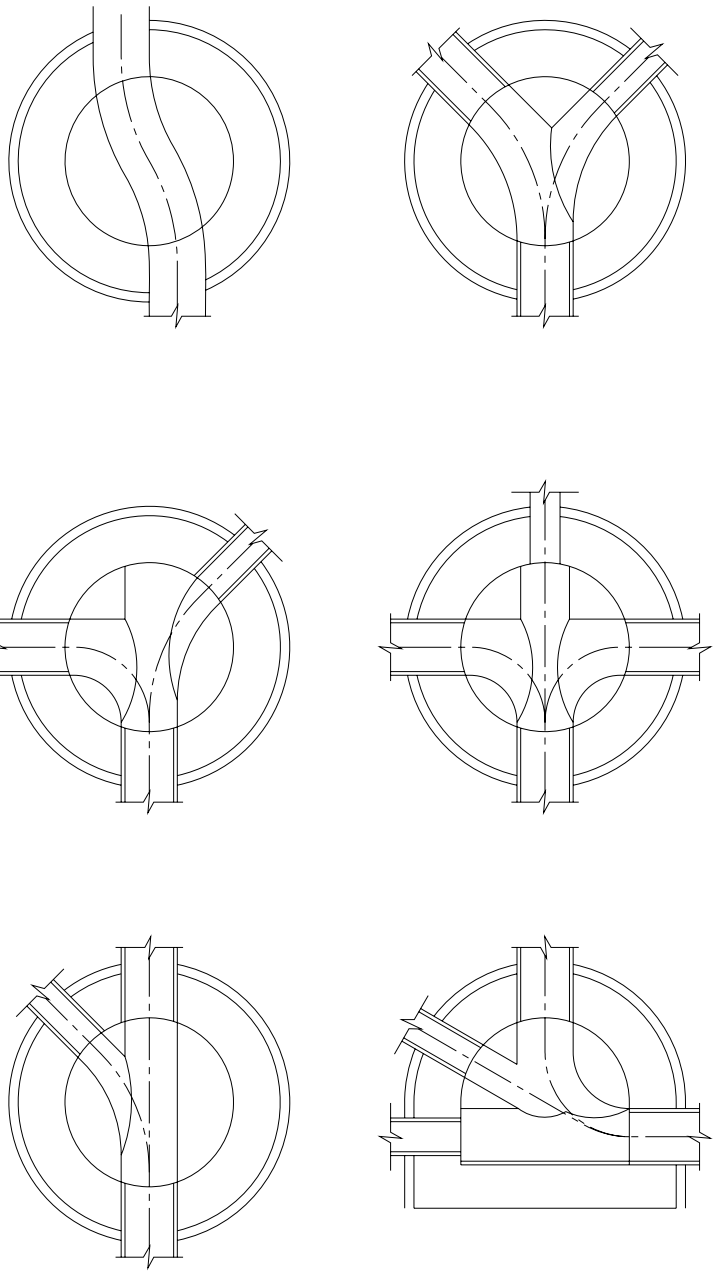
SECTION B-B

DIA.	WALL	G or T	WT. SEC.	A	B	C	D	E	DIA.+1	R-1	R-2	SKIRT
12	2	1 1/2	530	4	24	48 7/8	72 7/8	24	13	10 1/16	9	3 1/2
15	2 1/4	2	740	6	27	46	73	30	16	12 1/2	11	3 1/2
18	2 1/2	2 1/2	990	9	27	46	73	36	19	15 1/2	12	4
21	2 3/4	2 1/4	1280	9	35	38	73	42	22	16 1/8	13	4
24	3	2 1/2	1520	9 1/2	43 1/2	30	73 1/2	48	25	16 11/16	14	4 1/2
27	3 1/4	2 1/2	1930	10 1/2	48	25 1/2	73 1/2	54	28	17 3/4	14 1/2	4 1/2
30	3 1/2	3	2190	12	54	19 3/4	73 3/4	60	31	18 5/16	15	5
33	3 3/4	3 3/8	3150	13 1/2	58 1/2	39 1/4	97 3/4	66	34	23 3/4	17 1/2	5 1/2
36	4	3 1/2	4100	15	63	34 3/4	97 3/4	72	37	24 1/16	20	5 1/2
42	4 1/2	3 3/4	5380	21	63	35	98	78	43	27 1/4	22	5 1/2
48	5	4 1/4	6550	24	72	26	98	84	49	28 1/8	22	5 3/4
54	5 1/2	4 3/4	8040	27	65	35	100	90	55	32 7/8	24	6 1/4
60	6	5	8750	30	60	39	99	96	61	36 3/4	24	6 3/4
66	6 1/2	5 1/2	10630	24	78	21	99	102	67	35 11/16	24	7 1/4
72	7	6	12520	34	78	21	99	108	73	38 5/8	24	7 3/4
78	7 1/2	6 1/2	14430	24	78	21	99	114	79	41 15/16	24	8 1/2
84	8	7	16350	24	78	21	99	120	85	44 13/16	24	9

NOTE: MANUFACTURE OF END SECTION IS IN ACCORDANCE WWITH APPLICABLE PORTIONS OF A.S.T.M. SPECIFICATION C76.

PRECAST CONCRETE END SECTION

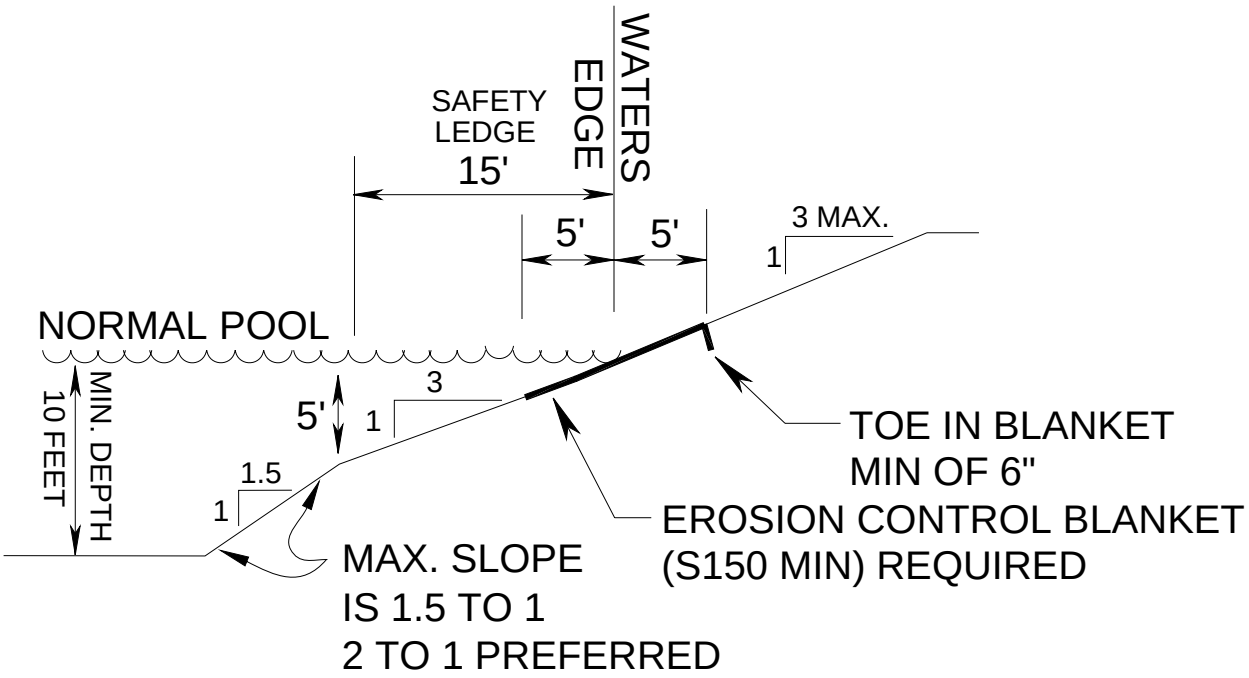
PRECAST CONCRETE PIPE END SECTION



STANDARD MANHOLE BENCHES

NO SCALE

MANHOLE STORM AND SANITARY
FLOWLINES AND BENCHES

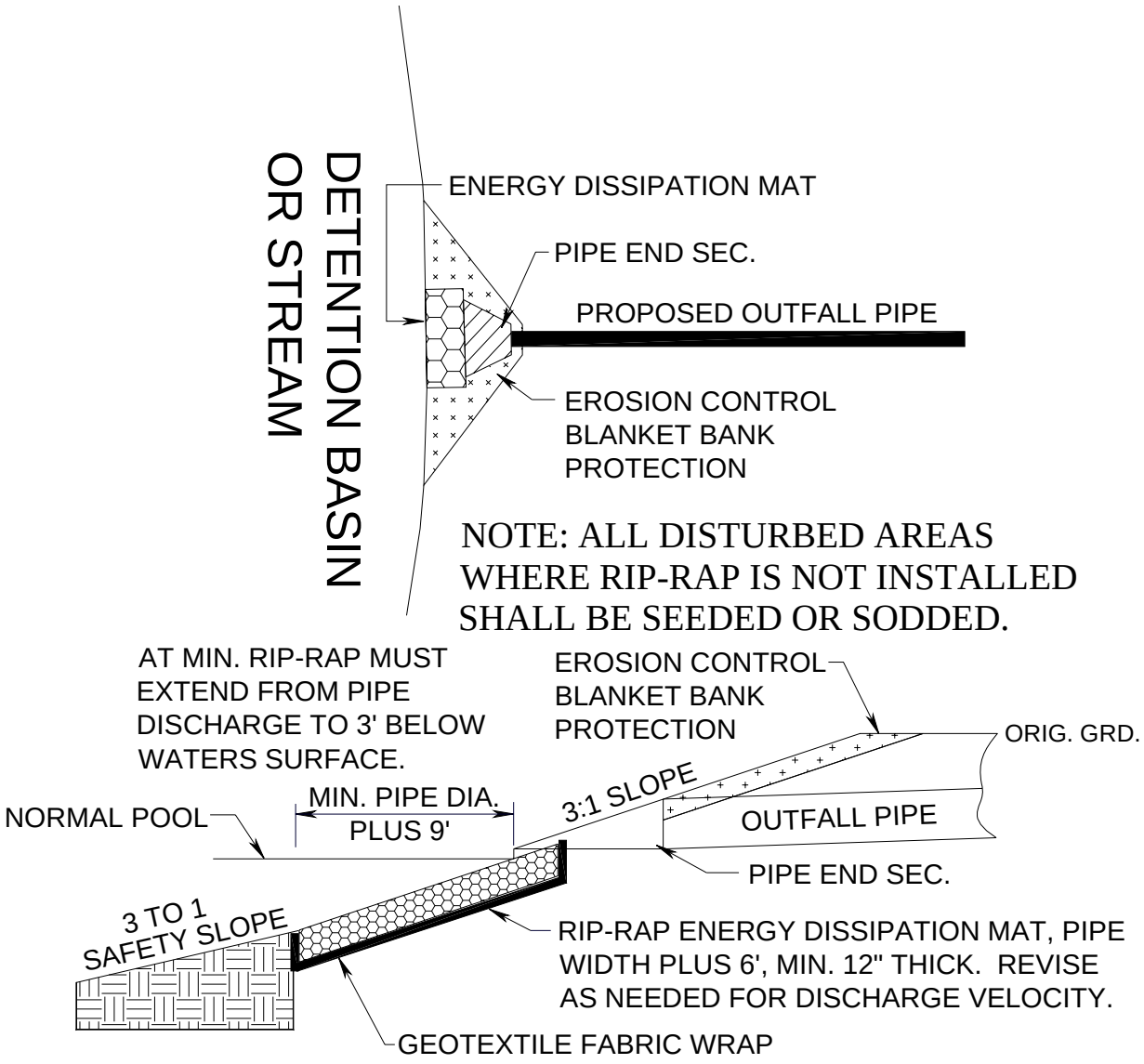


DETENTION BASIN SECTION

(NOT TO SCALE)

RIP-RAP MAY BE REQUIRED IN PLACE OF EROSION CONTROL BLANKET IF SCARPING AT WATERS EDGE IS A CONCERN AND IS REQUIRED IF LAKE IS 200 FEET OR GREATER IN ANY DIMENSION.

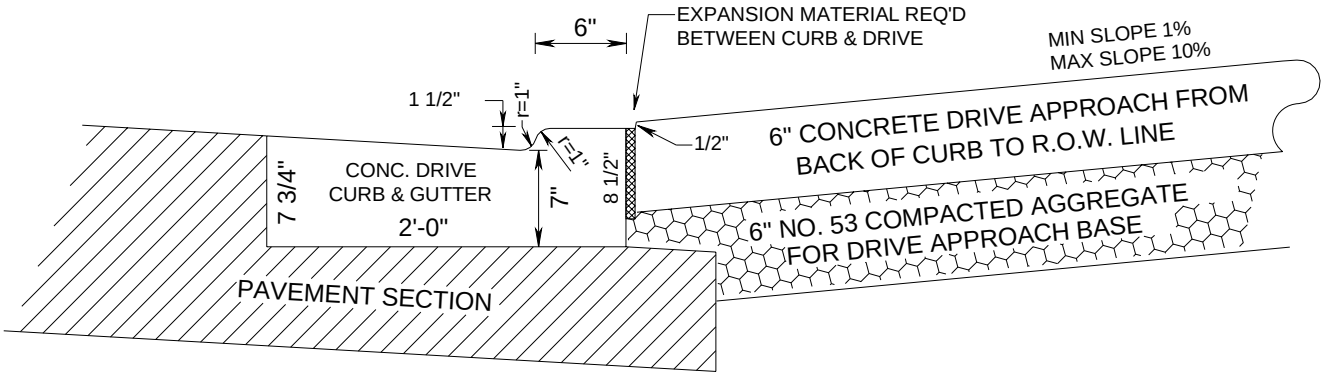
DETENTION BASIN TYPICAL SECTION



OUTFALL STRUCTURE TYPICAL

(NTS)

OUTFALL STRUCTURE TYPICAL SECTION



CONCRETE DRIVE APPROACH W/ CURB & GUTTER DETAIL

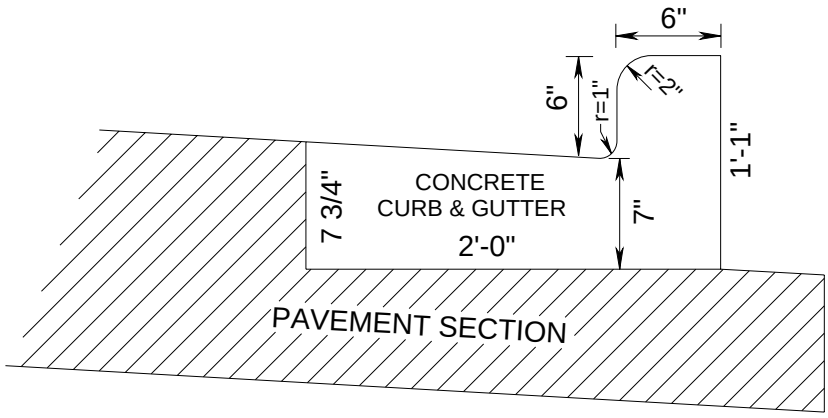
NTS

THIS TYPICAL TO BE USED FOR ALL STREET APPROACHES WHERE THERE IS CONCRETE CURB & GUTTER OR CONCRETE CURB

ALL DRIVE APPROACHES ON CITY RIGHT-OF-WAY ARE TO BE CONCRETE PER THIS DETAIL

IF CURB & GUTTER SECTION IS NOT EXISTING THEN SUBSTITUTE STRAIGHT 20" CONCRETE CURB AND REDUCE EXPOSED CURB FACE TO 1-1/2 INCH THROUGH DRIVEWAY.

REQUIRED DRIVE APPROACH TO PUBLIC STREET

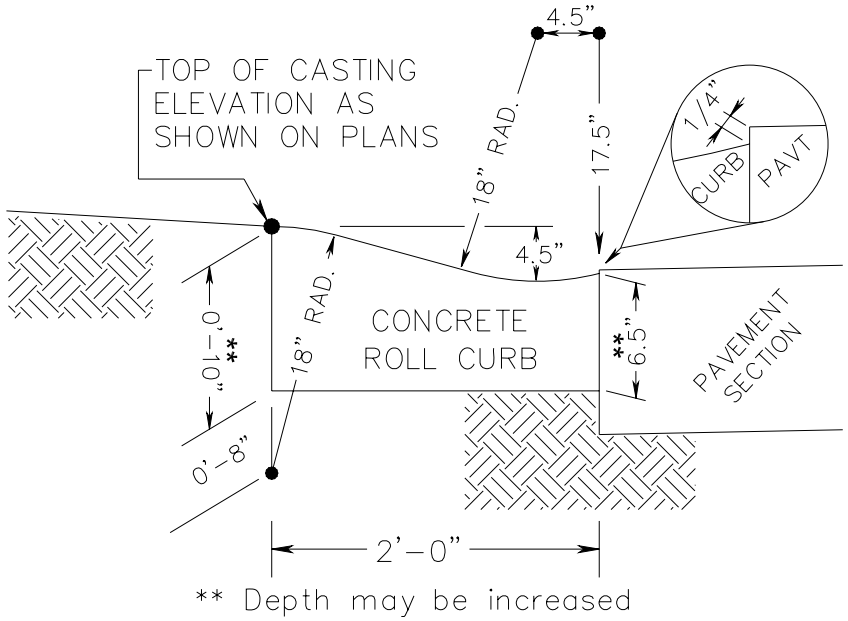


CONC. CURB & GUTTER DETAIL

NTS

CURB MAY HAVE 8" FACE EXPOSURE IN COMMERCIAL AND INDUSTRIAL DISTRICTS AND ON HIGH TRAFFIC STREETS.

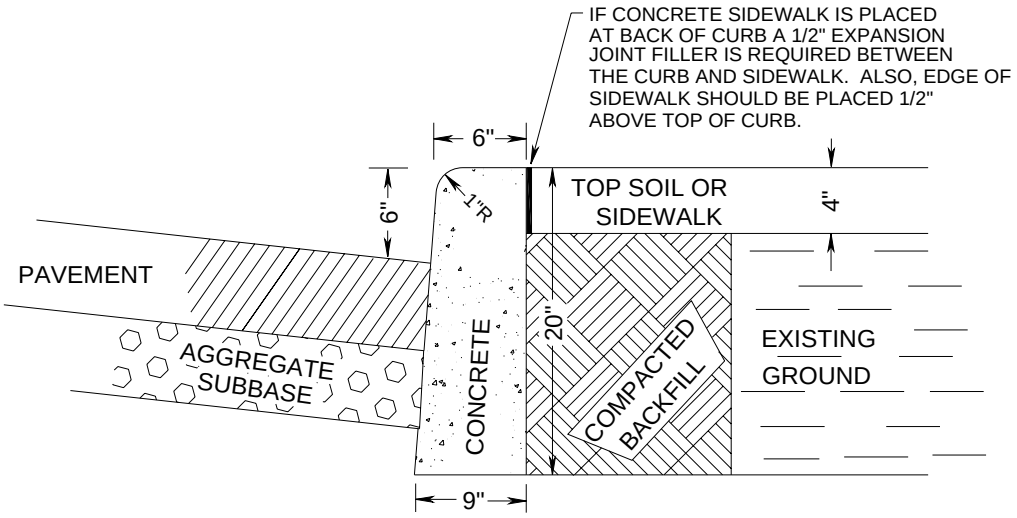
CHAIR TYPE CURB & GUTTER



ROLL CURB DETAIL

NTS

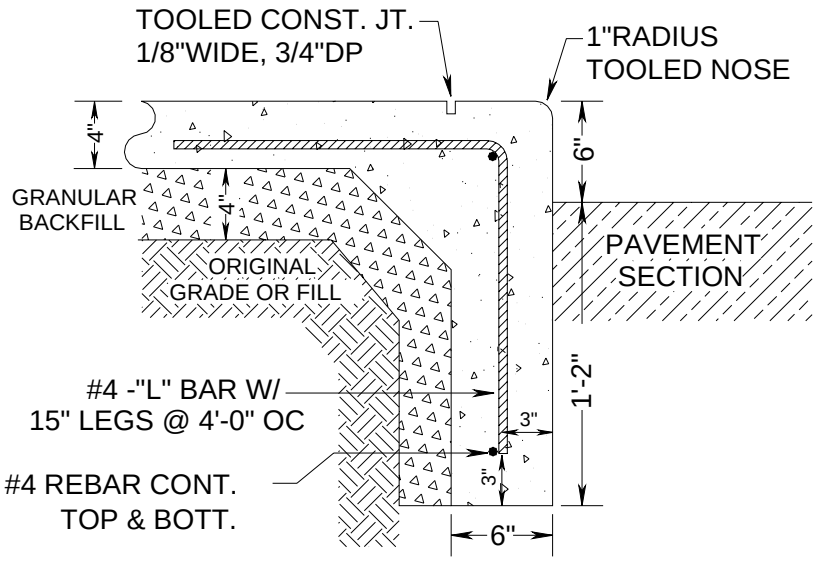
ROLL CURB & GUTTER DETAIL



STRAIGHT CONCRETE CURB DETAIL

NTS

STANDARD 20" CONCRETE CURB



1. CONCRETE TO BE 4000 PSI AIR ENTRAINED.
2. BROOM FINISH
3. APPLY ANTI-SPALLING PENETRATING CURING COMPOUND.

INTEGRAL CURB & SIDEWALK DETAIL (NTS)

AS AN ALTERNATE, 20” CONCRETE CURB MAY BE PLACED FIRST AND THE SIDEWALK PLACED LATER. (SEE STANDARD 20” CONCRETE CURB DETAIL FOR SIDEWALK PLACEMENT)

INTEGRAL CONCRETE CURB & SIDEWALK DETAIL

APPROVED STORMWATER CASTINGS

ALL CASTING NUMBERS ARE NEENAH FOUNDRY COMPANY, HOWEVER OTHER MANUFACTURES CASTINGS MAY BE APPROVED IF THEY ARE EQUIVALENT OR SIMILAR IN SIZE, SHAPE, FLOW, AND STRENGTH CHARACTERISTICS TO THE NEENAH CASTINGS.

ROAD AND STREET CASTINGS

CHAIR BACK CURB: **R-3286-8V; R-3287-10V; R-3287-15**

ROLL CURB & GUTTER: **R-3501-RA; R-3501-TR or TL**

CONCRETE GUTTER: **R-3541 or R-3408**

DITCH AND SWALE CASTINGS

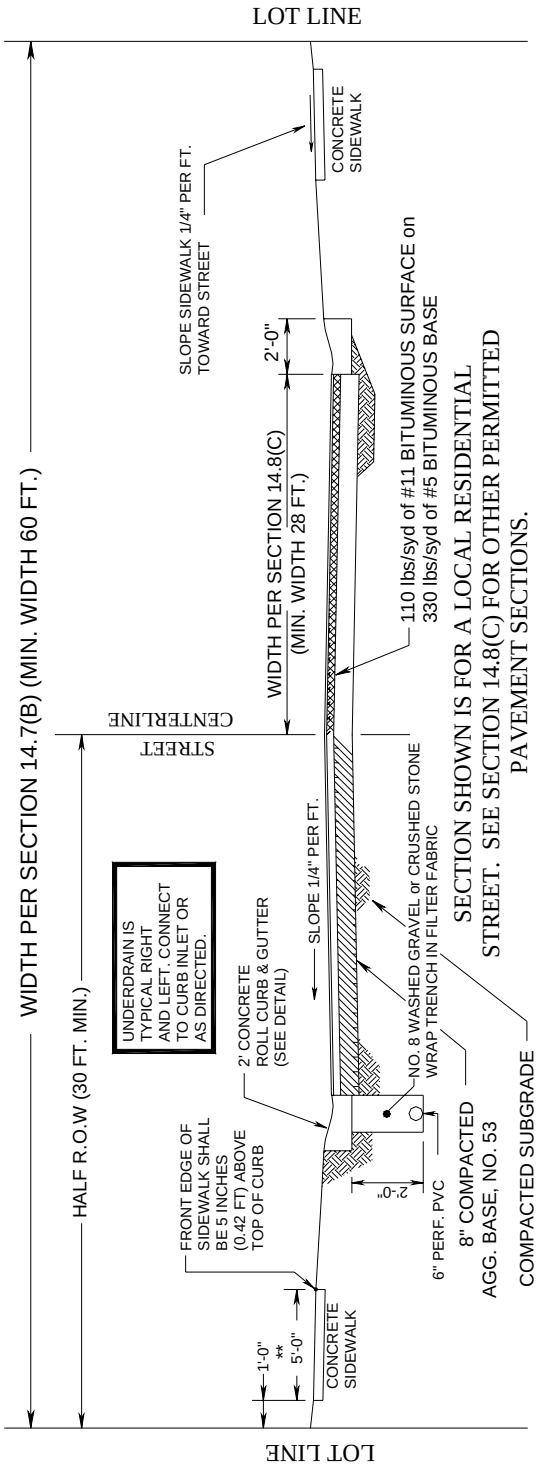
R-4215-C or R-4342

PARKING LOT CASTINGS

R-3433, R-3437 or R-3438

STORM MANHOLE

R-1556 or R-1760-A

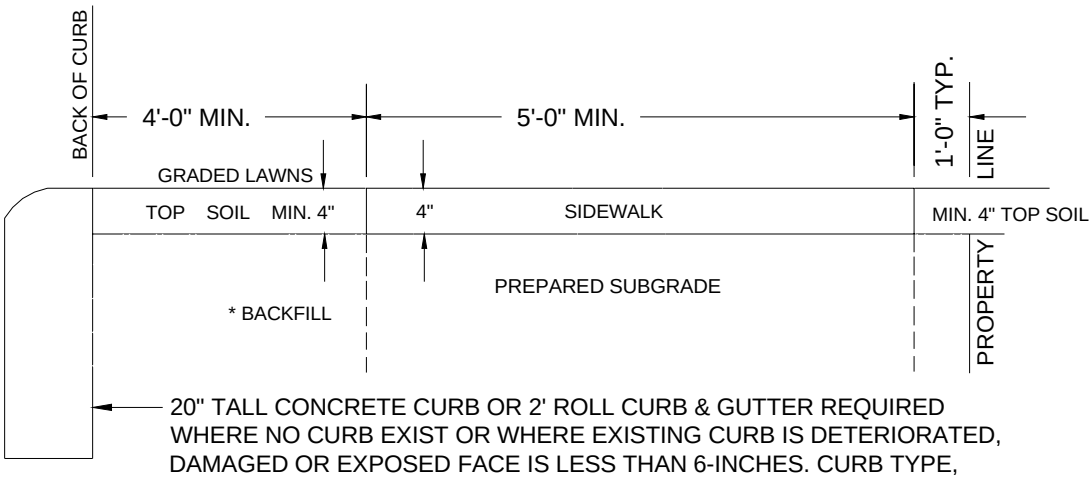


NTS

STREET TYPICAL SECTION

SECTION SHOWN IS FOR A LOCAL RESIDENTIAL STREET. SEE SECTION 14.8(C) FOR OTHER PERMITTED PAVEMENT SECTIONS.

RESIDENTIAL STREET TYPICAL SECTION



THICKEN SIDEWALK TO 6" WHEN CROSSING DRIVEWAYS - SEE DRIVE APPROACH TYPICAL

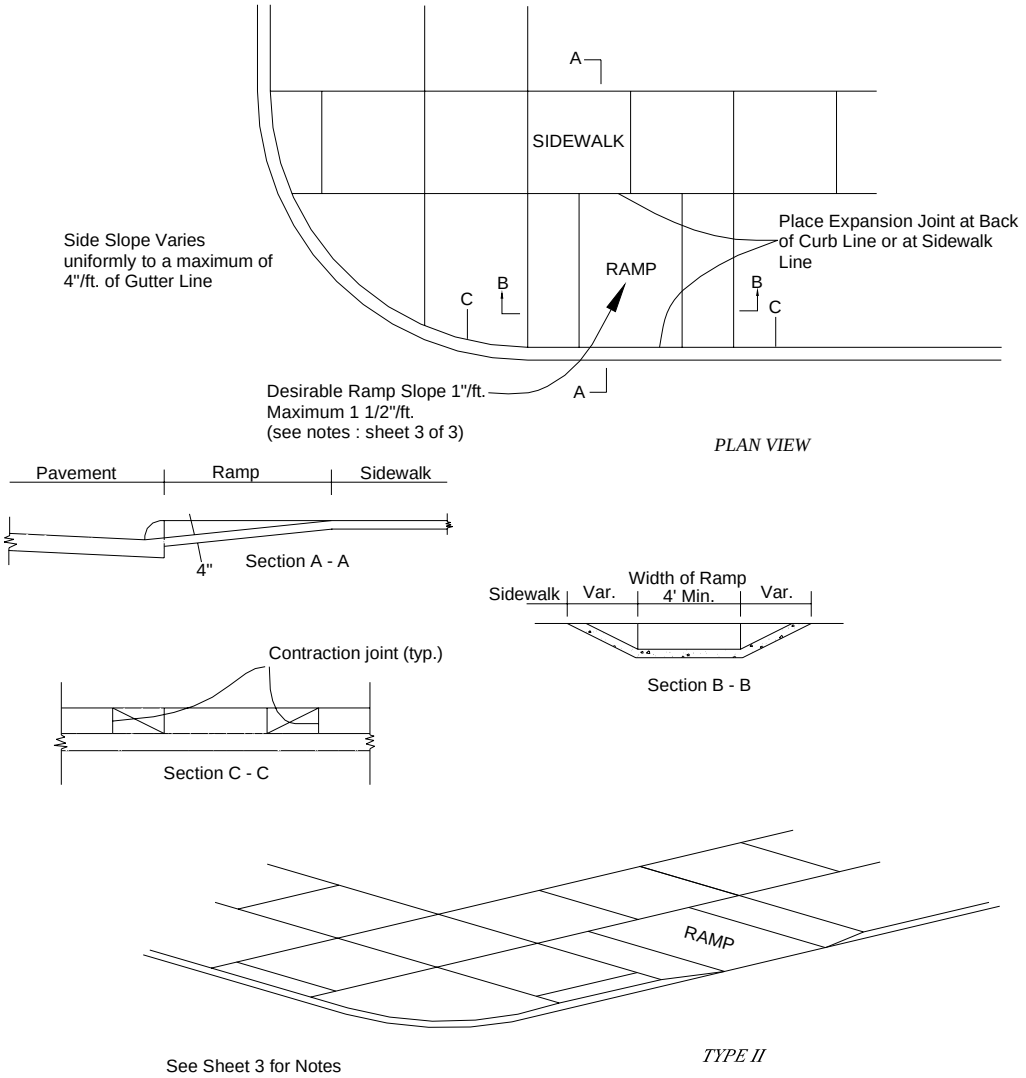
* THE SPACE BEHIND THE CURB SHALL BE FILLED WITH SUITABLE MATERIAL TO THE REQUIRED ELEVATION AND COMPACTED IN LAYERS NOT TO EXCEED 6" IN DEPTH.

SUBGRADE UNDER ALL CURB, SIDEWALK AND DRIVES SHALL BE COMPACTED IN TO 95 PERCENT OF STANDARD PROCTOR DESNITY.

TYPICAL SIDEWALK SECTION

NOT TO SCALE

TYPICAL SIDEWALK & CURB INSTALLATION DETAIL

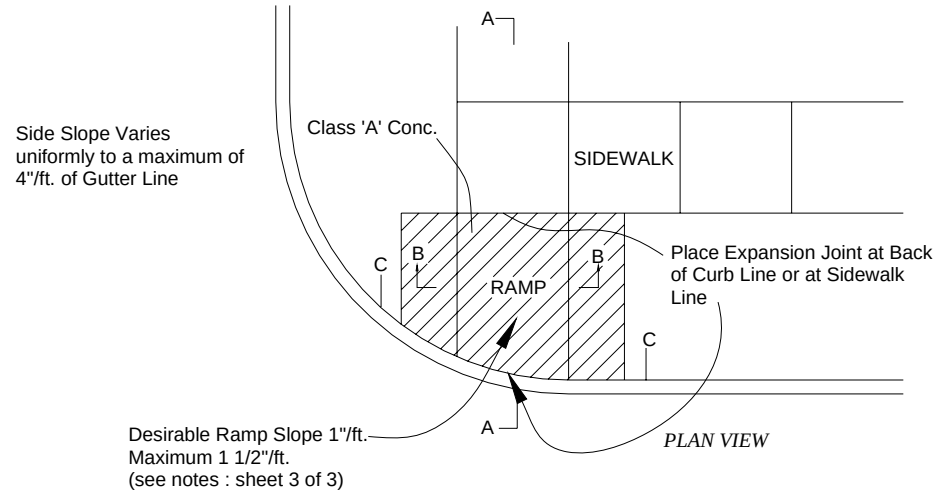


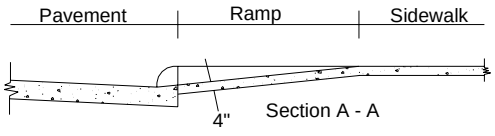
See Sheet 3 for Notes

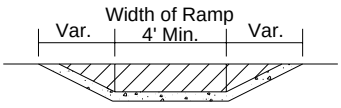
SIDEWALK RAMP DETAILS FOR HANDICAPPED

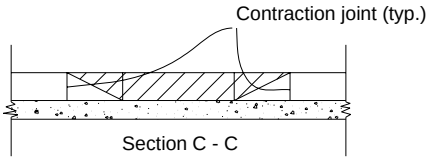
NOT TO SCALE

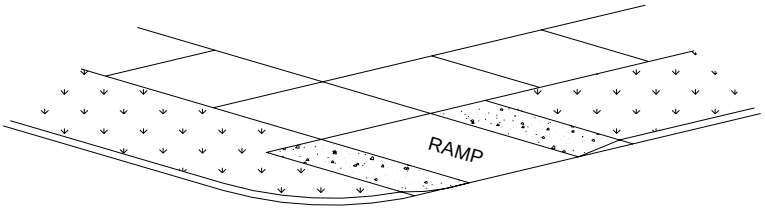
TYPICAL HANDICAP SIDEWALK RAMP DETAIL NOT AT CORNER











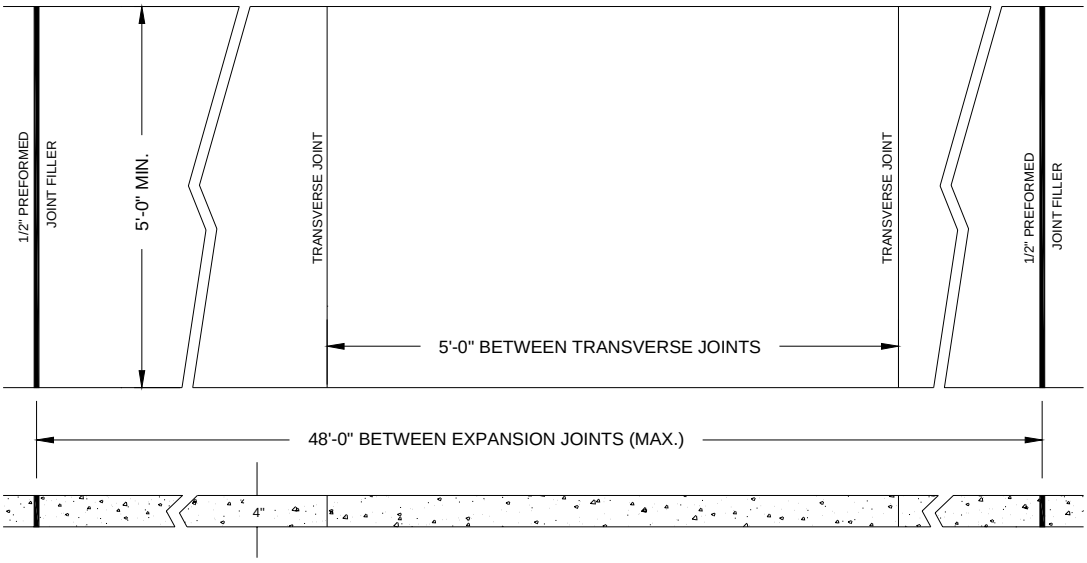
TYPE I

See Sheet 3 for Notes

SIDEWALK RAMP DETAILS FOR HANDICAPPED

NOT TO SCALE

TYPICAL HANDICAP SIDEWALK RAMP DETAIL AT CORNER



CONCRETE SIDEWALK

NOT TO SCALE

SIDEWALK DETAILS

NOT TO SCALE

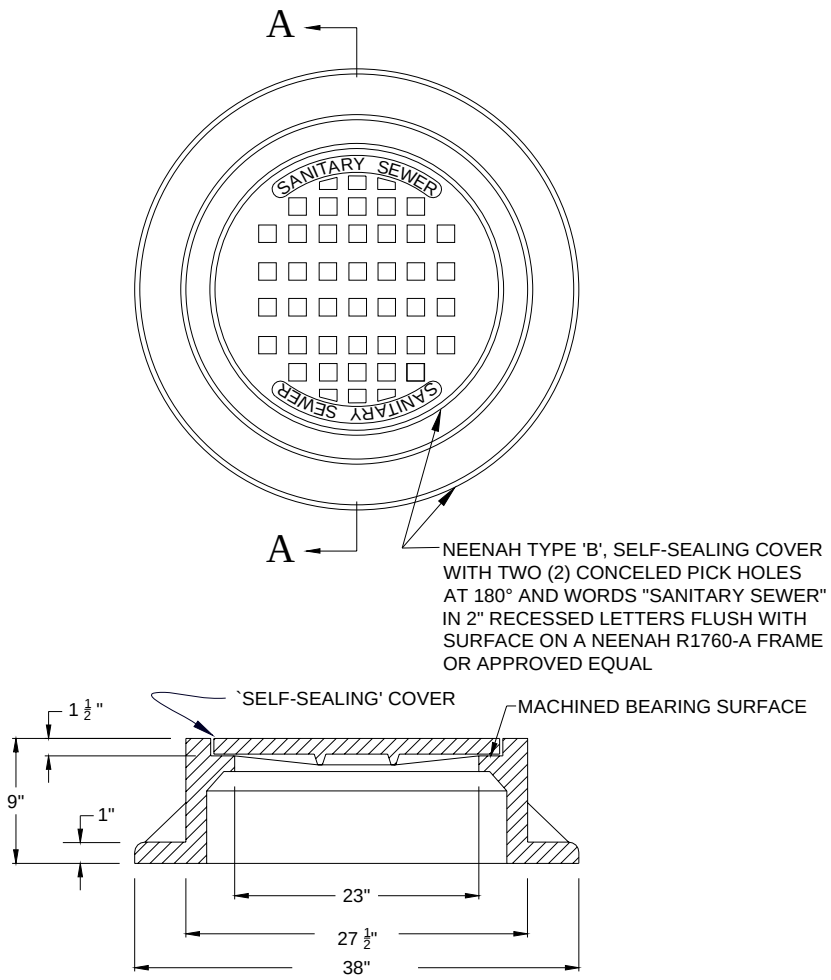
SIDEWALK JOINT DETAILS

NOTES:

1. When the intersection is not signalized Sidewalk Ramps shall be placed on the residential street side only. When intersection is signalized, Sidewalk Ramps shall be placed on both the residential street and Arterial street side.
2. Curb cut ramps are to be located as shown on the plans or as directed.
3. Ramps shall be provided at all corners of street intersections where there is existing or proposed sidewalk and curb. Ramps shall also be provided at walk locations in mid-block in the vicinities of Hospitals, Medical Centers and Athletic Stadiums.
4. Surface texture of the ramp shall be that obtained by a coarse brooming, transverse to the slope of the ramp.
5. Sidewalks shall be ramped where the driveway curb is extended across the walk.
6. Care shall be taken to assure a uniform grade on all ramps with no breaks in grade.
7. Drainage structures shall not be placed in line with ramps. Except where existing drainage structures are being utilized in the new construction, location of the ramp should take precedence over the location of drainage structure.
8. The normal gutter line profile shall be maintained through the area of the ramp.
9. Expansion joint for the ramp shall be a maximum ½ " wide. The top of the joint filler for all ramp types shall be flush with adjacent concrete.
10. Crosswalk and stop line markings, if used, shall be so located as to stop traffic short of ramp crossings.
11. Slope of ramp may be modified when field conditions warrant and when approved by the Department of Transportation.

SIDEWALK HANDICAP RAMP DETAIL NOTES

HANDICAP SIDEWALK RAMP NOTES

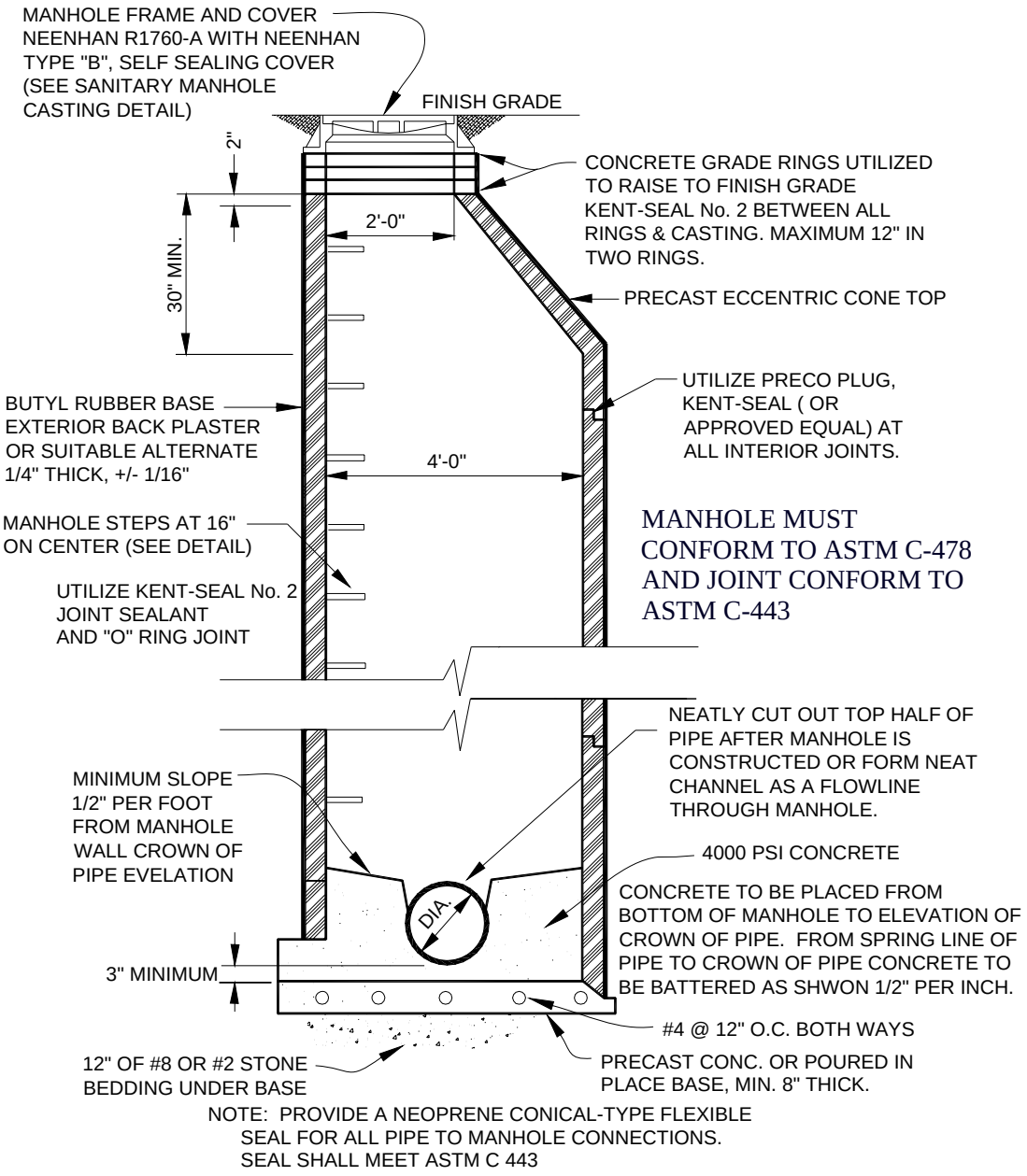


SECTION "A"-"A"

SANITARY MANHOLE - FRAME AND COVER

NOT TO SCALE

SANITARY MANHOLE CASTING

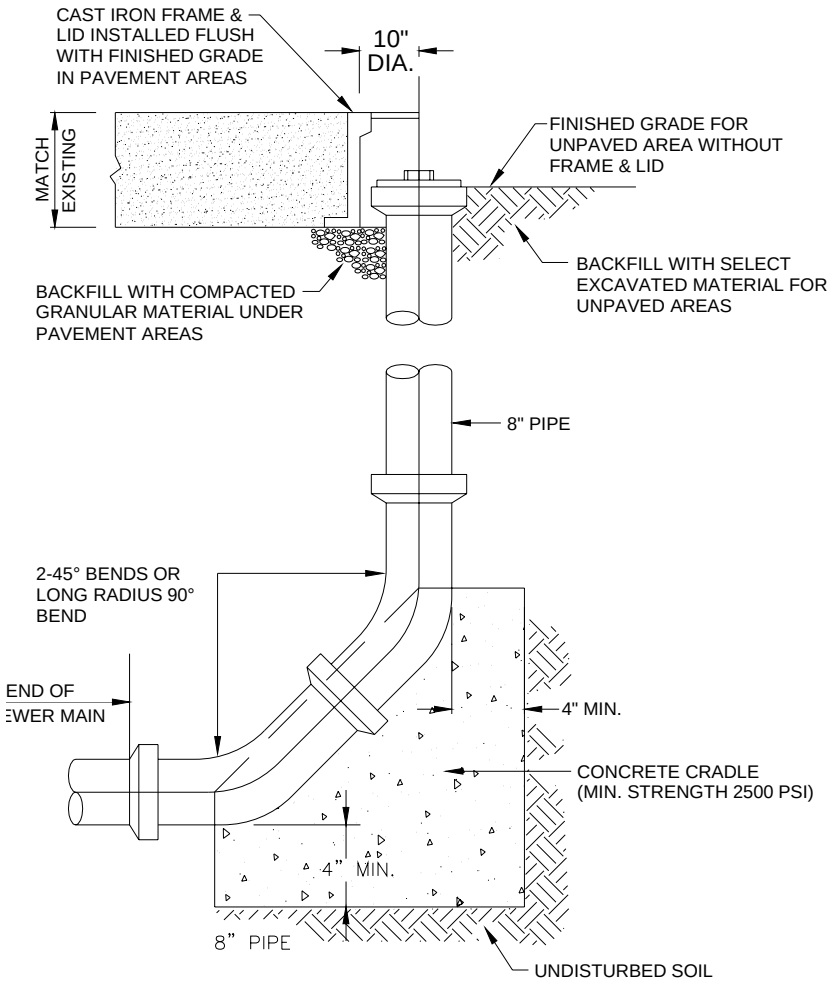


NOTE: PROVIDE A NEOPRENE CONICAL-TYPE FLEXIBLE SEAL FOR ALL PIPE TO MANHOLE CONNECTIONS. SEAL SHALL MEET ASTM C 443

STANDARD SANITARY PRECAST MANHOLE - FOR 12" TO 24"

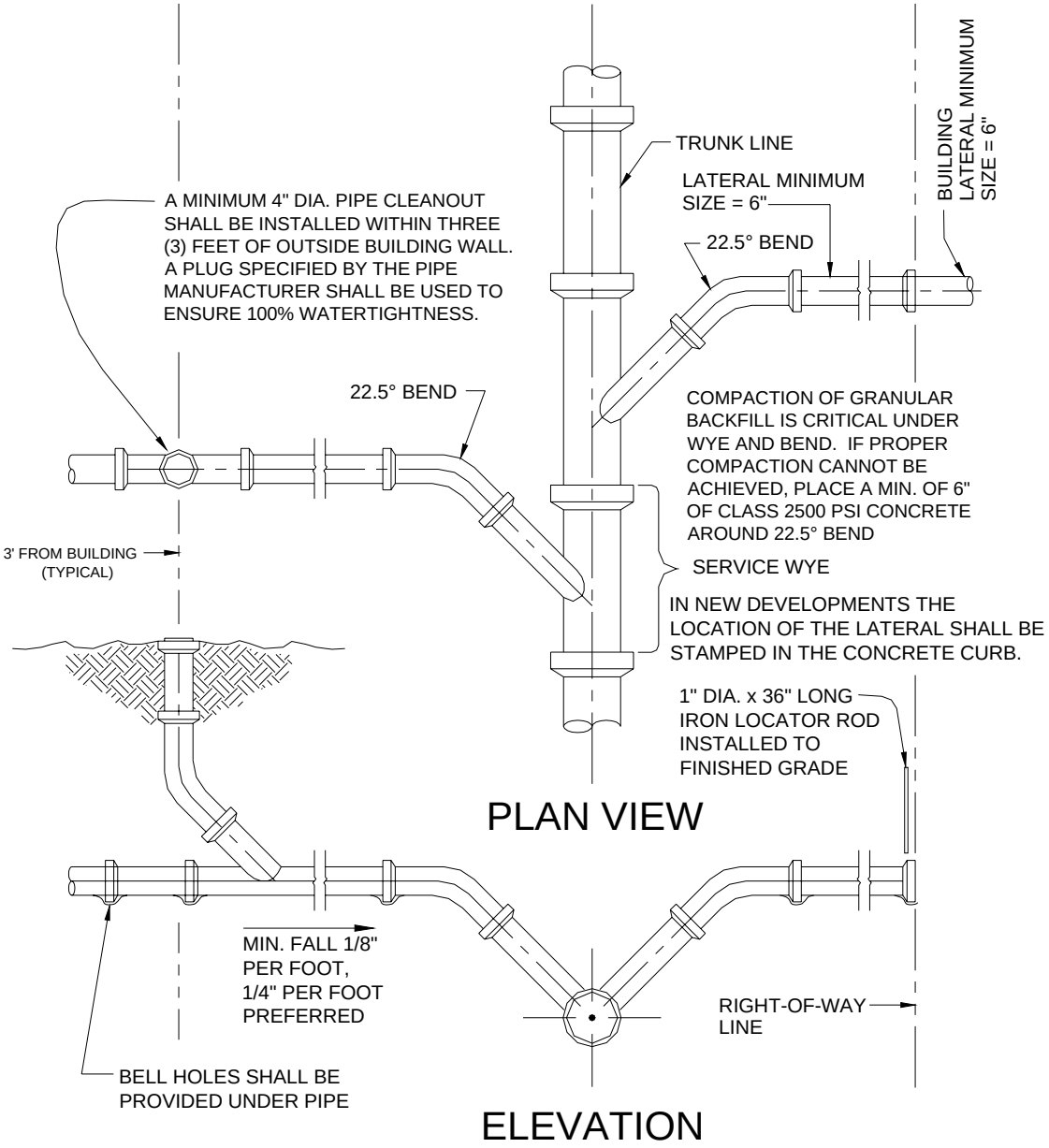
NOT TO SCALE

STANDARD SANITARY MANHOLE



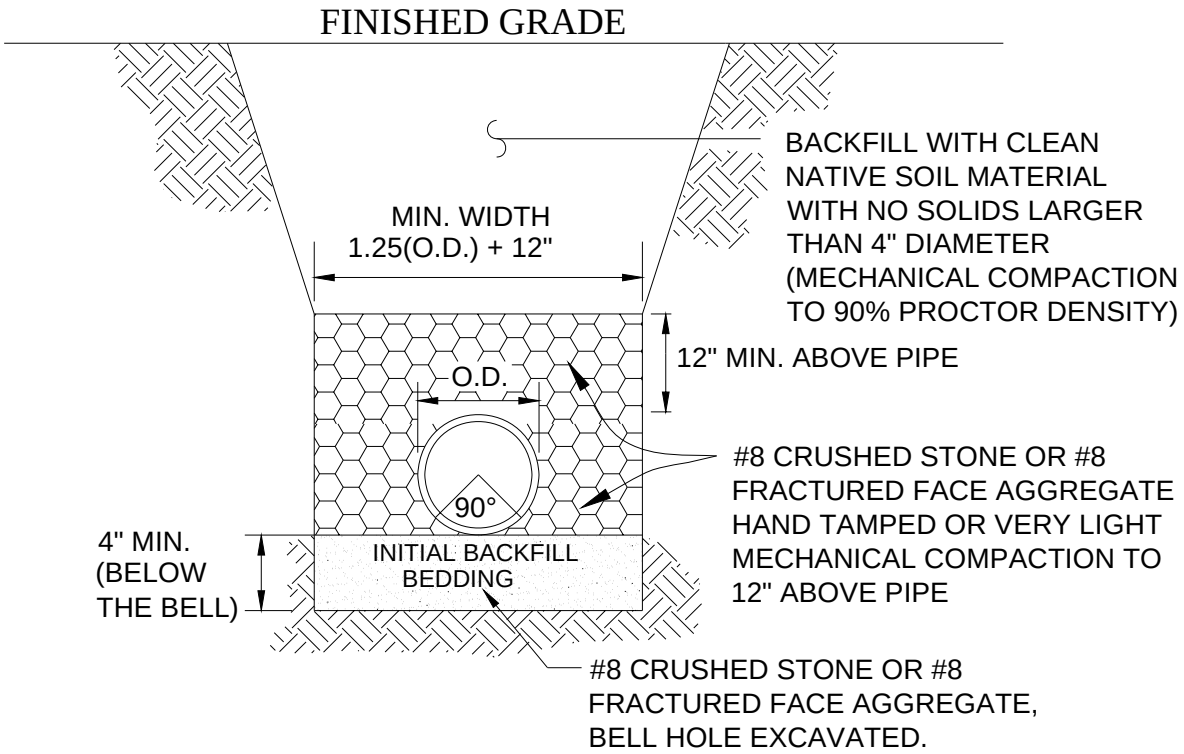
SEWER CLEANOUT

SANITARY SEWER CLEANOUT



SERVICE CONNECTION FOR SHALLOW SEWERS (LESS THAN 15' DEEP)

SANITARY SERVICE CONNECTION

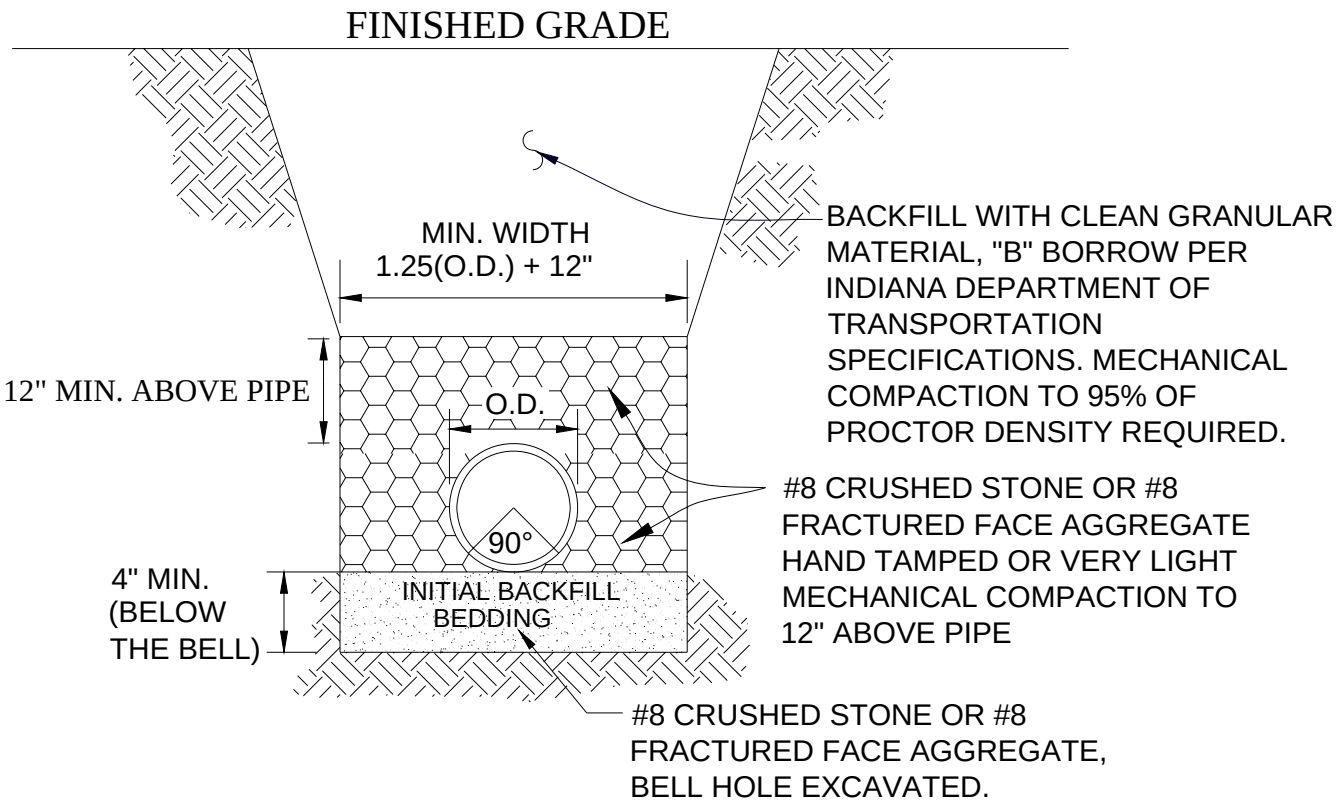


PIPE SIZE	8" TO 15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN.=4"	O.D./4 MAX.=8"

MORE THAN 5 FEET FROM PAVEMENT OR SIDEWALK

SANITARY SEWER BEDDING DETAIL
ALL PIPE TYPES
NOT TO SCALE

SANITARY SEWER BEDDING
GREATER THAN 5-FEET FROM PAVEMENT OR SIDEWALK



PIPE SIZE	8" TO 15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN.=4"	O.D./4 MAX.=8"

5-FEET OR LESS FROM PAVEMENT OR SIDEWALK

SANITARY SEWER BEDDING DETAIL
ALL PIPE TYPES
NOT TO SCALE

SANITARY SEWER BEDDING
5-FEET OR LESS FROM PAVEMENT OR SIDEWALK

SELECTED SANITARY FORCE MAIN SPECIFICATIONS

1. Minimum depth of force main shall be 60-inches.

2. Minimum size of force main shall be 4-inch for regional lift stations and 2-inch for single-family or local force main.

3. Force main pipe shall be not less than PVC SDR-17 for regional lift stations and PVC Schedule 40 for single-family or local force main.

4. Force main shall be pressure tested for two-hours at not less than 100 percent of the manufactures specified working pressure with no pressure loss.

5. An air-release valve shall be placed at all high-points in the force main route.

6. A No. 10, THNN, copper trace wire shall be installed along the crown of the force main along its entire length and shall be accessible at each end, at air-release valves and other convenient locations. A plastic caution tape shall be placed 24-inches above the crown of the force main along its entire length. A permanent location marker shall be installed that extends 48-inches above finished grade at every horizontal bend of the force main but in no case at intervals greater than 500-feet.

SELECTED SANITARY SEWER SPECIFICATIONS

1. Sanitary sewers shall be installed and tested in accordance with Indiana Department of Environmental Management (IDEM) Rules.

2. A permit for sanitary sewer extension must be obtained from IDEM for any extension of the City of Martinsville sanitary sewer system together with.

3. Permission for extension of the Martinsville sanitary sewer system must be obtained from the Martinsville Board of Public Works and Safety before plans can be submitted to the OCE.

4. If reimbursement for off-site main extension is requested said request must be submitted in writing together with two or more construction cost bids to the OCE not less than 30-days prior to scheduled Board of Public Works and Safety meeting. If the Board of Pubic Works and Safety grants the reimbursement request a contract will be drafted for execution by the respective parties based on the lowest bid.

5. Before any sanitary sewer extension is accepted for maintenance by the City of Martinsville documentation of passing all IDEM required test shall be submitted to the OCE together with a three-year maintenance bond in an amount of not less than 20-percent of the construction cost.

6. Minimum depth of sanitary sewers, to the invert of the pipe, is 7.0 feet unless a wavier, for good cause, is granted by the OCE. This requirement is necessary to provide some assurance that the minimum of 18-inches of vertical separation will be maintained between the sanitary sewer and any water main or storm sewer and to provide adequate depth to maintain the preferred slope of ¼" per foot for the sanitary lateral from the building to the sanitary sewer main.

7. All sanitary sewers and manholes shall be located in a dedicated sanitary sewer easement of not less than 20-feet wide.

8. Lift stations shall be constructed only with the express approval of the OCE and only provided that the lift station will provide sanitary service to the entire drainage basin in which the lift station is located.

9. Sanitary sewer trunk lines shall be oversized if the OCE determines that over-sizing is required to accommodate future development.

SELECTED WATER SYSTEM SPECIFICATIONS

1. Water main shall be installed and tested in accordance with Indiana Department of Environmental Management (IDEM) Rules, American Water Works Associates specifications and these standards.

2. A Notice of Intent (NOI) shall be file with the Indiana Department of Environmental Water for all water main extensions.

3. Permission for extension of the Martinsville water system must be obtained from the Martinsville Board of Public Works and Safety before plans can be submitted to the OCE.

4. Before any water main extension is accepted for maintenance and place in service by the City of Martinsville documentation of passing all IDEM required pressure and disinfection test shall be submitted to the OCE together with a three-year maintenance bond in an amount of not less than 20-percent of the construction cost.

5. Minimum water main cover shall be 48-inches.

6. A No. 10, THNN, copper trace wire shall be installed along the crown of the water main along its entire length and shall be accessible at each valve, fire hydrant and other convenient locations. A plastic caution tape shall be placed 24-inches above the crown of the water main along its entire length. A permanent location marker shall be installed that extends 48-inches above finished grade at every valve of the water main but in no case at intervals greater than 500-feet.

7. All water main extension pipes shall be American Water Works Association (AWWA) specification C900.

8. All joints, bends, and fitting shall be ductile iron with mechanical connections such as “megalug” as manufactured by EBAA Iron , Inc. or approved equal.

REQUIREMENTS FOR WATER SYSTEM EQUIPMENT

1. Standard Fire Hydrant – Muller Model A-423, one- 5-1/4" steamer nozzle and two- 2-1/2" hose nozzles, 4-foot bury, right hand open (clockwise), square nut on top and caps.

2. Residential Corporation stop – ¾" and 1" compression connection, Muller Model H-15008.

3. All service lines shall be "K" copper, minimum ¾" diameter, with continuous, no splice, run between the main and the meter.

4. Valves, valve boxes, meter yokes, meter pits, and all other fittings shall be as required by the Martinsville Water Utility.

5. Standard water main size is 8-inch. Minimum main size for fire hydrant service is 6-inch. Minimum main size for any other extension is 4-inch. OCE shall be the final determiner of the size of main to be used for every segment of a project. Valves shall be placed at intervals not to exceed 1000 feet and at each tee, cross and fire hydrant or as specified by the OCE.

6. OCE may require a water main to be over-sized to accommodate future development. Cost of over-sizing shall be the sole responsibility of the Owner/Developer unless reimbursement for over-sizing is approved by the Board of Public Works and Safety.

7. Fire hydrants shall be located and placed as required by the Martinsville Fire Department.

8. Standard City pressure is between 40 and 60 pounds pre square inch which provides a flow of approximately 1000 gallons per minute. Owner/Developer is responsible for providing the entire cost of booster pump stations and/or elevated tanks to maintain this pressure and flow, to the maximum extent possible, throughout the area serviced by any extension of the water system.